Math 10 HW Sheets

Knack Academics

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M10 - 1.1 - 1 Step SI/Imperial Conversion Factors HW

How many centimetres in the 100 m dash?

How many meters in 2.4 km?

How many kilometres in 650 m?

How many yards in 3 miles?

How many inches in a 4 yard truck?

How many miles in 25,000 feet?

How many feet in a two meter tall person?

How many meters to the moon in 384,000 km?

How many feet and inches in 75 inches?

How many pounds in 84 kg?

M10 - 1.1 - 2/3 Step SI/Imperial Conversion Factors HW

How many meters in 250 inches?

How many inches in 12 m?

How many centimetres in 6 feet?

How many feet are in 2.2 km?

How many yards in 12,000 cm?

How many centimetres in a mile?

How many seconds in a day?

How many hours in 100 years?

M10 - 1.1 - Converting Squared and Cubed Units Notes HW

How many centimetres squared in two meters squared?

How many feet squared in 4 yards squared?

How many meters cubed in 2 km cubed?

How many centimetres cubed in 1 km cubed?

How many centimetres squared in a circle with a radius of 5 m?

How many millilitres of water in 10 kg of water?

M10 - 1.2 - Conversion 1st vs 2nd HW

Draw a diagram and solve

$Find\ the\ Area\ in\ cm^2$

A rectangle 4 m x 5 m.

$Find\ the\ Area\ in\ ft^2$

A rectangle 44 in x 55 in.

Find the number of cm^3 in a 1 foot Cube?

Find the mass in Kilograms of five mega litres of water?

M10 - 1.3 - Scientific Notation Conversion Factors HW

Conversion Factors

Prefixes

How many Meters are in 100 Micrometers?

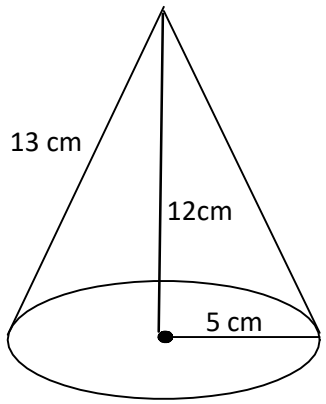
How many meters to the moon in 380,000 km?

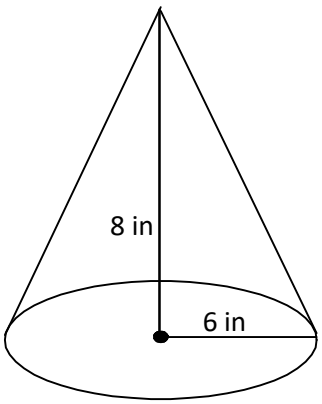
How many kilobytes in 4 Gigabytes?

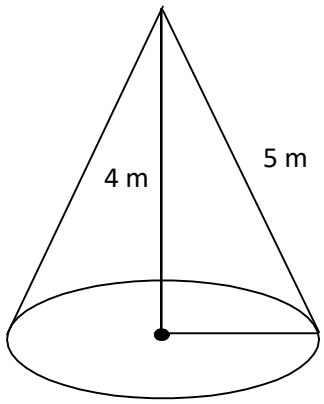
How many milligrams in 52 kilograms?

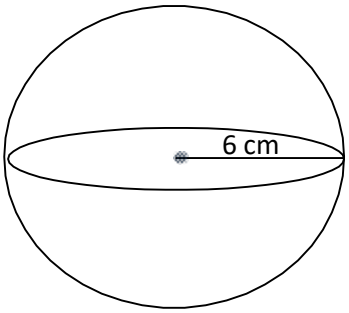
M10 - 2.1 - Surface Area Cone/Sphere HW

Calculate the following Surface Area and Volume.



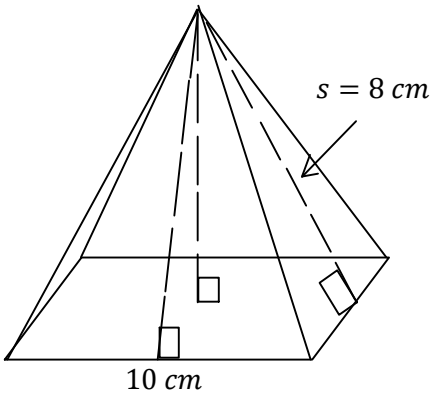


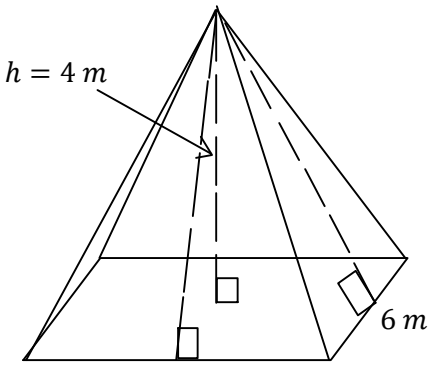


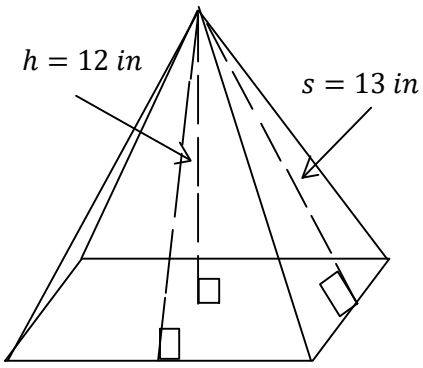


M10 - 2.2 - Surface Area/Volume Square Pyramid (pythag) HW

Calculate the following Surface Area and Volume with both Methods.

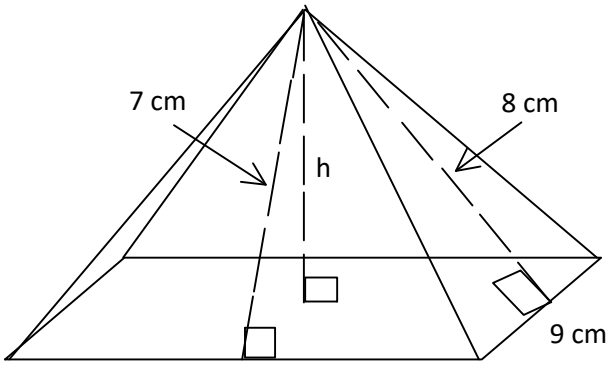


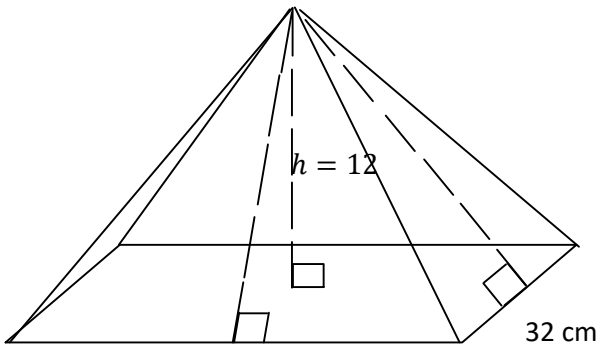




M10 - 2.3 - Surface Area/Volume Rectangular Pyramid HW

Calculate the following Surface Area and Volume with both Methods.

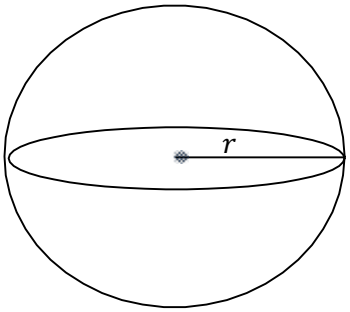




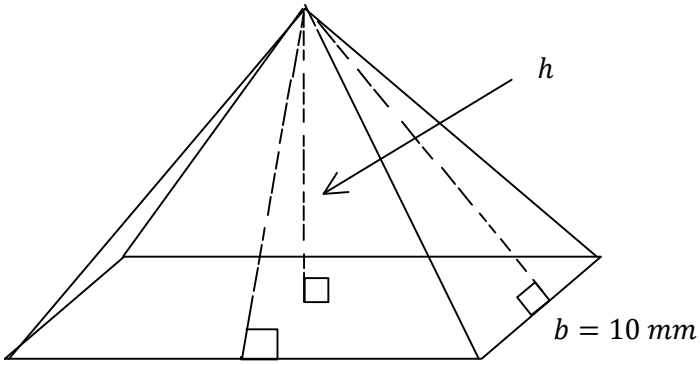
M10 - 2.4 - Surface Area/Volume Missing Length HW

Find the missing length for the shapes below.

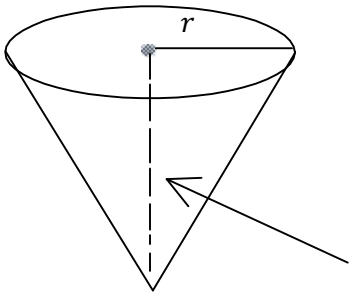
$SA = 29\ in^2$



$V = 1000\ mm^3$



$b = 10\ mm$

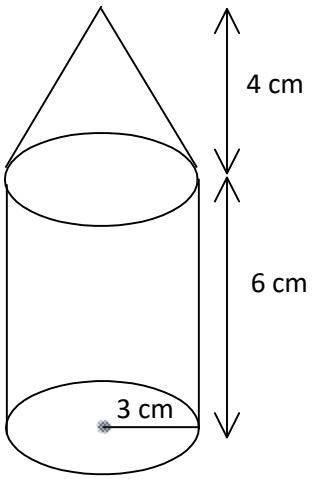


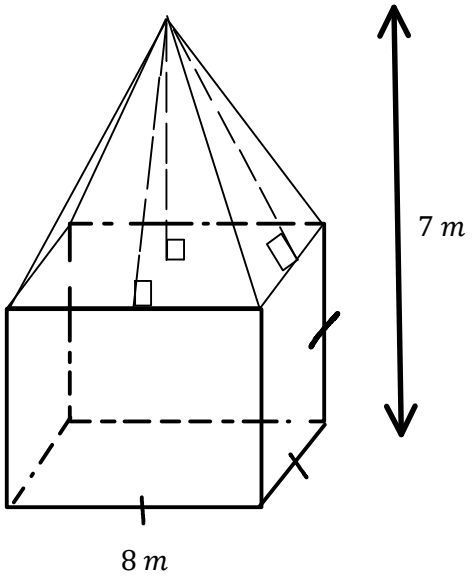
7 in

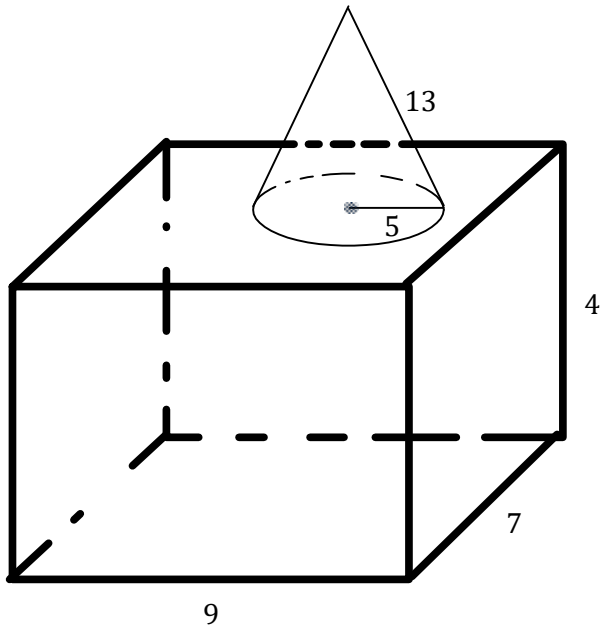
$V = 183.26\ ft^3$

M10 - 2.5 - Composite Shapes HW

Find the Volume and Surface Area of the composite shape below.

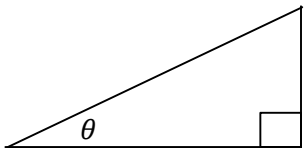


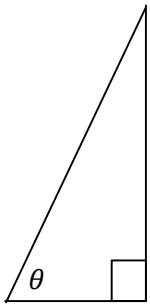


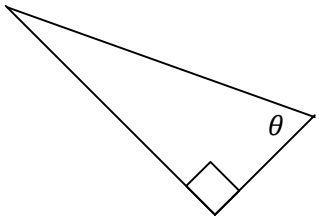


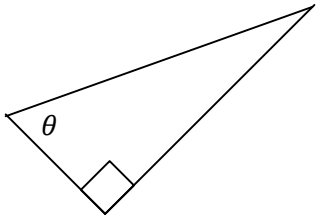
M10 - 3.1 - Trig Label Sides HW

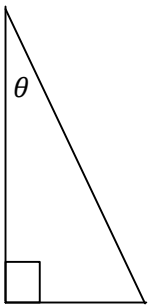
Label Hypotenuse, Opposite, and Adjacent to θ $(the\ angle)$

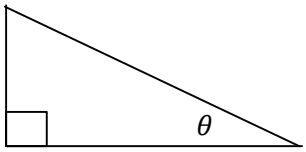


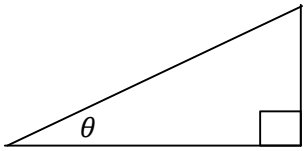


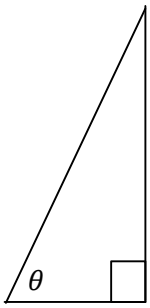


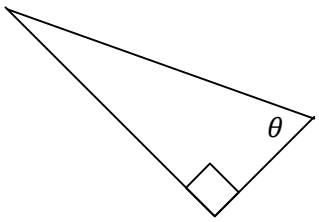




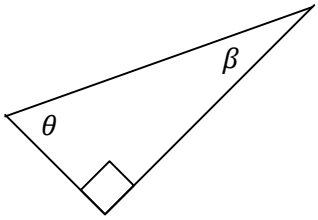






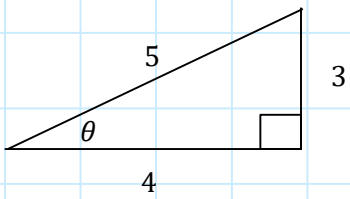


Label Hypotenuse, Opposite, and Adjacent to $\theta\ and\ \beta$ $(the\ angle)$



M10 - 3.1 - Trig Ratios HW

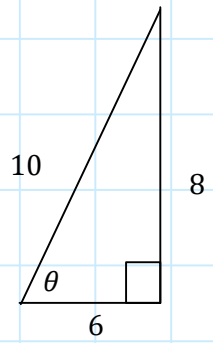
Label Hypotenuse, Opposite, and Adjacent to θ $(the\ angle)$ and State the ratio.



$sin\theta =$

$cos\theta =$

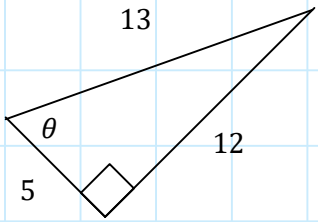
$tan\theta =$



$sin\theta =$

$cos\theta =$

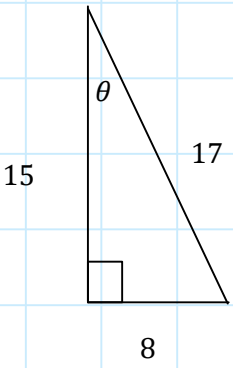
$tan\theta =$



$sin\theta =$

$cos\theta =$

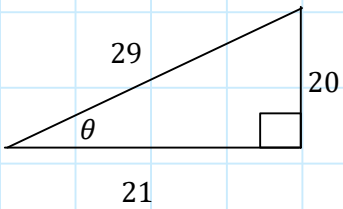
$tan\theta =$



$sin\theta =$

$cos\theta =$

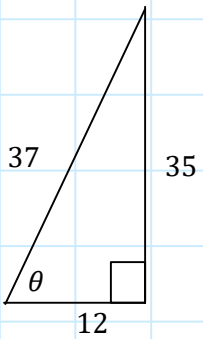
$tan\theta =$



$sin\theta =$

$cos\theta =$

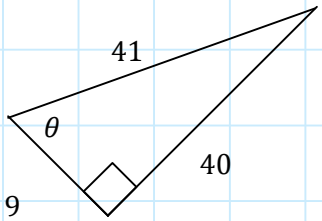
$tan\theta =$



$sin\theta =$

$cos\theta =$

$tan\theta =$



$sin\theta =$

$cos\theta =$

$tan\theta =$

$sin\theta =$

$cos\theta =$

$tan\theta =$

M10 - 3.2 - Trig Ratios Calc HW

Plug into your Calculator to 3 Decimals, Draw a Triangle, State Meaning.

$sin0 =$ $cos0 =$ $tan0 =$

$sin15 =$ $cos15 =$ $tan15 =$

$sin30 =$ $cos30 =$ $tan30 =$

$sin45 =$ $cos45 =$ $tan45 =$

$sin60 =$ $cos60 =$ $tan60 =$

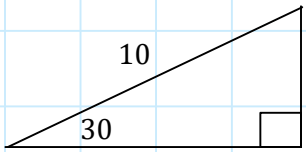
$sin75 =$ $cos75 =$ $tan75 =$

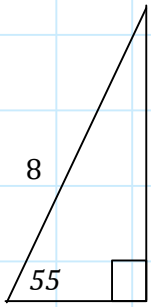
$sin90 =$ $cos90 =$ $tan90 =$

$sin120 =$ $cos120 =$ $tan120 =$

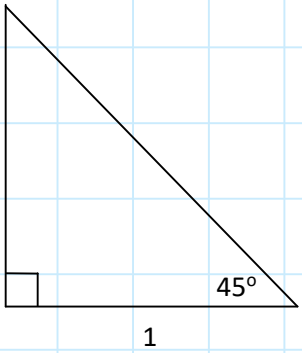
M10 - 3.2 - Trig Ratios Solve Opp HW

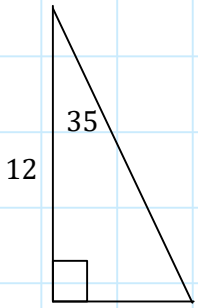
Solve for Opposite.



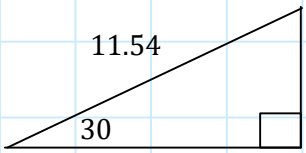


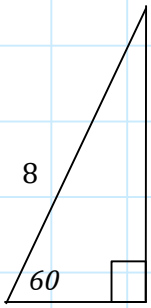
Solve for Opposite.





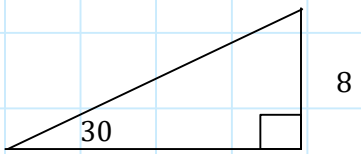
Solve for Adjacent.

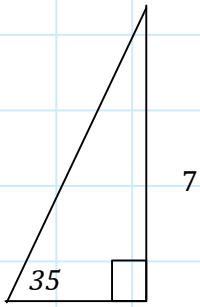




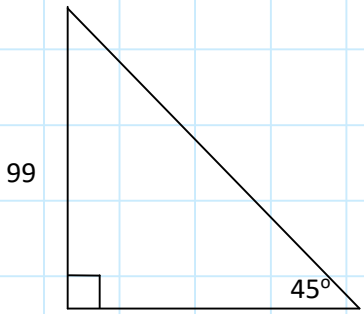
M10 - 3.2 - Trig Ratios Solve Hyp HW

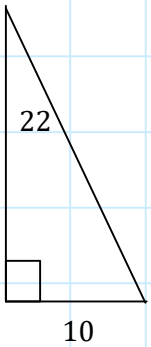
Solve for Hypotenuse.



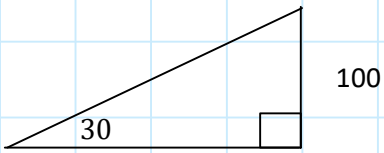


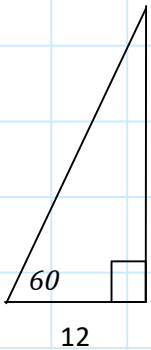
Solve for Adjacent.





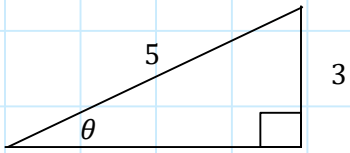
Solve for Hypotenuse.

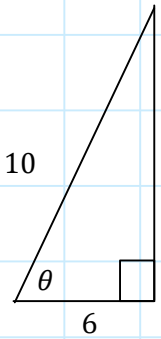


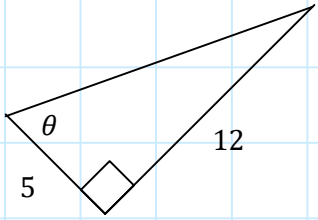


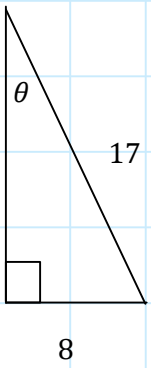
M10 - 3.2 - Trig Angles Solve Theta HW

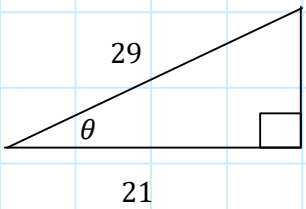
Solve for θ $(the\ angle)$

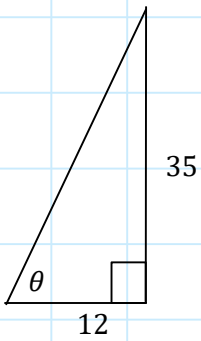


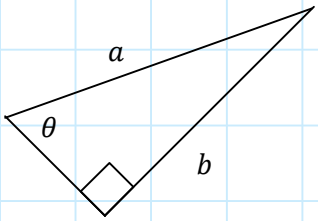


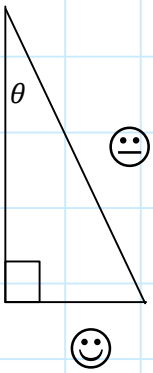






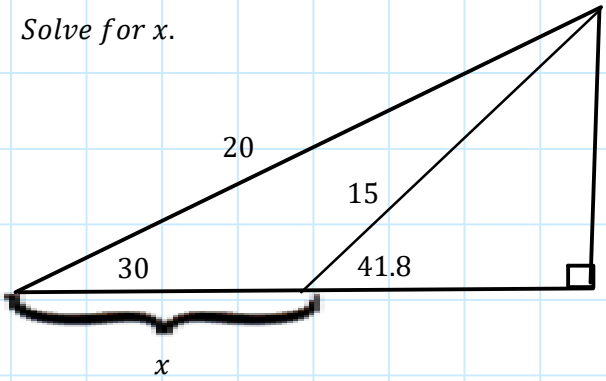




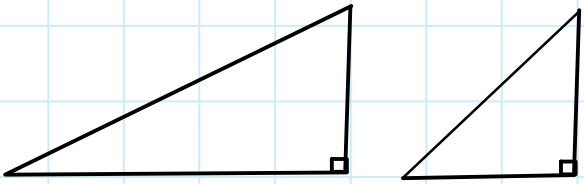


M10 - 3.3 - Trig Cliff Word Problems HW

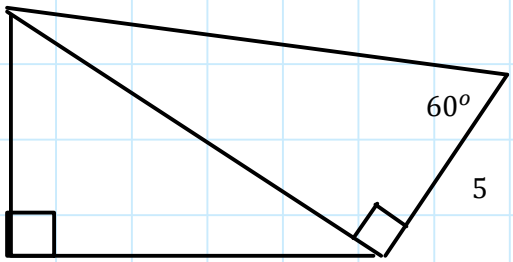
Solve for x.



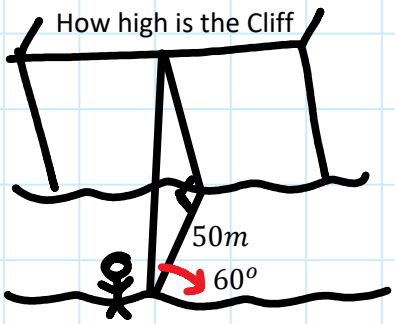
Redraw!



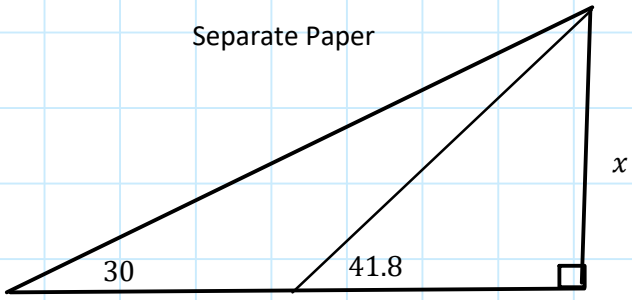
Solve Both Triangles



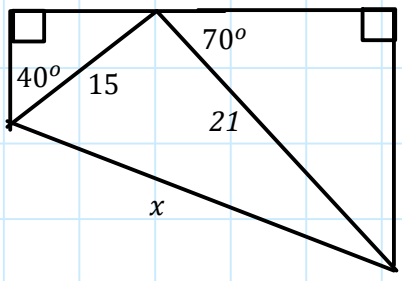
How high is the Cliff



Separate Paper

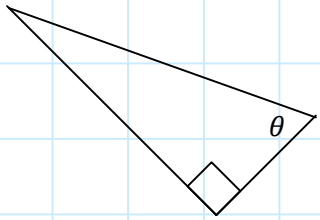


Think outside the Box

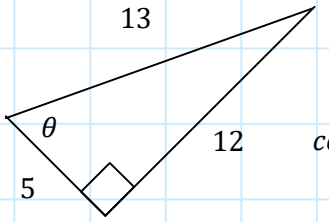


M10 - 3.3 - Trig Review

Label Hypotenuse, Opposite, and Adjacent to θ $(the\ angle)$



Label Hypotenuse, Opposite, and Adjacent to θ $(the\ angle)$ and State the ratio.

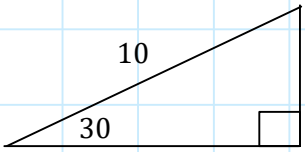


$cos\theta =$

Solve on calculator to 3 decimals

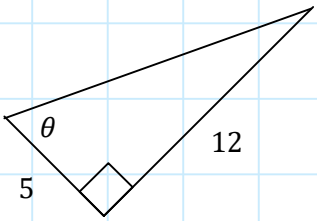
$tan25 =$

Solve for Opposite.

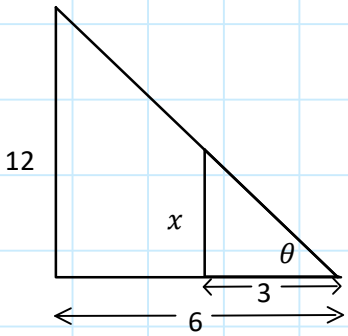


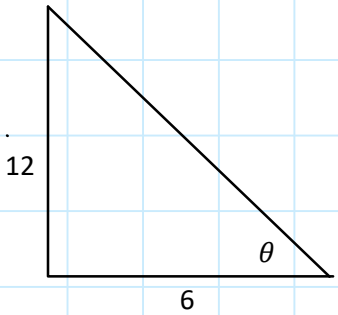
Solve for Hypotenuse.

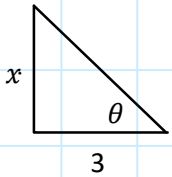
Solve for θ $(the\ angle)$



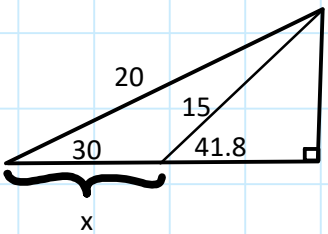
Solve for x. $Find\ tan\theta\ and\ \theta\ in\ both\ diagrams\ below.$

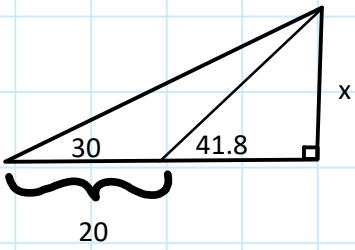






Solve for x.





M10 - 4.1 - Entire to Mixed Radicals HW

Simplify

$\sqrt[2]{12} =$

$\sqrt[2]{18} =$

$\sqrt[2]{45} =$

$\sqrt[2]{50} =$

$\sqrt[2]{20x^2} =$

$\sqrt[2]{63}$

$\sqrt[2]{24} =$

$\sqrt[2]{54} =$

$\sqrt[2]{40} =$

$\sqrt[2]{27x^3} =$

$\sqrt[2]{8} =$

$\sqrt[2]{125x^5} =$

$\sqrt[2]{32} =$

$\sqrt[2]{243} =$

$\sqrt[2]{30125} =$

$\sqrt[2]{72y^3} =$

$\sqrt[2]{108} =$

$\sqrt[2]{500} =$

M10 - 4.1 - Cube Entire to Mixed Radicals HW

Simplify

$\sqrt[3]{24} =$

$\sqrt[3]{54} =$

$\sqrt[3]{250} =$

$\sqrt[3]{-40} =$

$\sqrt[3]{189} =$

$\sqrt[3]{686} =$

$\sqrt[3]{48} =$

$\sqrt[3]{162} =$

$\sqrt[3]{112} =$

$\sqrt[3]{16} =$

$\sqrt[3]{-81} =$

$\sqrt[3]{625} =$

$\sqrt[3]{128} =$

$\sqrt[3]{2187} =$

$\sqrt[3]{-50625} =$

M10 - 4.2 - Mixed to Entire Radicals HW

Simplify

$2\sqrt[2]{3} =$

$3\sqrt[2]{2} =$

$5\sqrt[2]{2} =$

$4\sqrt[2]{5} =$

$2\sqrt[2]{7} =$

$7\sqrt[2]{2}$

$10\sqrt[2]{3} =$

$3\sqrt[2]{7} =$

$11\sqrt[2]{5} =$

$4\sqrt[2]{7} =$

$7\sqrt[2]{6} =$

$8\sqrt[2]{5} =$

$4\sqrt[2]{11} =$

$5\sqrt[2]{11} =$

$1\sqrt[2]{30125} =$

$2\sqrt[2]{99} =$

$5\sqrt[2]{1000} =$

$7\sqrt[2]{4} =$

M10 - 4.2 - Cube Root Mixed to Entire Radicals HW

Simplify

$2\sqrt[3]{2} =$

$3\sqrt[3]{5} =$

$7\sqrt[3]{3} =$

$2\sqrt[3]{8} =$

$7\sqrt[3]{6} =$

$1\sqrt[3]{686} =$

$2\sqrt[3]{48} =$

$-3\sqrt[3]{12} =$

$5\sqrt[3]{12} =$

$11\sqrt[3]{6} =$

$2\sqrt[3]{11} =$

$-5\sqrt[3]{6} =$

$2\sqrt[3]{18} =$

$3\sqrt[3]{2187} =$

$10\sqrt[3]{50625} =$

M10 - 4.3 - Mult/Add Div/Divide Exponent Laws HW

Write each product of powers as a single power.

$x^2 \times x^2 = x^{2+2} = x^4$

$y^3 \times y^4 =$

$3^2 \times 3^2 =$

$z^3 \times z^2 =$

$m^3 \times m^4 =$

$n^4 \times n^2 =$

$2^2 \times x^3 =$

$(2x)^2 \times (2x)^3 =$

$(3y)^2 \times (2y)^2 =$

Write each quotient of repeated multiplication division statement in faction form then simplify as a single power.

$x^4 \div x^2 = \frac{\cancel{x \times x} \times \cancel{x \times x}}{\cancel{x \times x}} = x^2$

$x^3 \div x^2 =$

$y^2 \div y^2 =$

$z^5 \div z^2 =$

$x^3 \div x^3 =$

$x^2 \div x^3 =$

$(3x)^5 \div (3x)^3 =$

$(2x)^6 \div (2x)^3 =$

$(2x)^8 \div (2x)^7 =$

Write each quotient of powers as a single power.

$x^4 \div x^2 = x^{4-2} = x^2$

$y^4 \div y^2 =$

$m^4 \div m^3 =$

$g^7 \div g^4 =$

$(-2x)^5 \div (-2x)^3 =$

$(-4x)^8 \div (-4x)^7 =$

Write each quotient of powers as a single power.

$\frac{x^5}{x^2} =$

$\frac{y^2}{y} =$

$\frac{(-3x)^4}{(-3x)^2} =$

$\frac{m^5}{m^2} =$

$\frac{b^3}{b^2} =$

$\frac{(-7x)^5}{(-7x)^2} =$

M10 - 4.3 - Distribution Exponent Laws HW

Write the following as a single power.

$(x^3)^2 = x^{3\times 2} = x^6$

$(x^2)^3 =$

$(y^3)^2 =$

$(2z^2)^5 =$

$(3x^3)^4 =$

$(x^{-1})^2 =$

Write as a multiplication of two powers.

$[7 \times x]^2 = 7^2x^2 = 49x^2$

$[5 \times y]^2 =$

$[m \times n]^2$

$[7 \times b]^2 =$

$[2x \times 3x]^2 =$

$[3x \times 2y]^2$

$[7x]^2 =$

$[3xy]^2$

$[5x^3]^2 =$

Distribute the power.

$\left(\frac{x}{y}\right)^2 =$

$\left(\frac{3y}{2x}\right)^2$

$\left(\frac{180x^2}{6x}\right)^2 =$

$\left(\frac{24x^5}{2x^4}\right)^2 =$

$\left(\frac{5xy}{35y^2}\right)^2 =$

$\left(\frac{4x}{4x}\right)^2 =$

M10 - 4.4 - Negative Exponents HW

Write with positive exponents

$x^{-3} = \frac{1}{x^3}$ $x^{-4} =$ $\frac{1}{x^{-3}} =$ $\frac{1}{x^{-4}} =$

$x^{-2} =$ $x^{-3} =$ $x^{-2} =$ $x^{-2} =$

$2x^{-2} =$ $2^{-3}x =$ $2^{-3}x^{-2} =$

$\frac{1}{2x^{-2}} =$ $\frac{1}{2^{-3}x} =$ $\frac{1}{2^{-3}x^{-2}} =$

$\frac{5}{2x^{-2}} =$ $\frac{5}{2^{-3}x^{-2}} =$

$\frac{x^2}{y^{-3}} =$ $\frac{x^{-2}}{y^{-3}} =$

$\frac{4}{2x^{-2}} =$ $\frac{2}{4x^{-2}} =$

Write with negative exponents

$x^3 =$ $\frac{1}{x^{-3}} =$ $\frac{1}{2x^3} =$ $\frac{12}{6x^3} =$

M10 - 4.5 - Fraction Exponents HW

Change from radical/root form to exponential form.

$\sqrt[5]{3^2} =$ $\sqrt[2]{3^5} =$ $\sqrt{5} =$ $\sqrt[3]{x^4} =$

$\sqrt[4]{(-7)^3} =$ $\sqrt[2]{2^7} =$ $\sqrt{6} =$ $\sqrt[2]{x^5} =$

Change from exponential form to radical/root form. Simplify if possible.

$-3^{\frac{2}{3}} =$ $16^{\frac{3}{4}} =$ $81^{\frac{5}{4}} =$

$(-5)^{\frac{2}{3}} =$ $9^{(\frac{5}{2})} =$ $(-125)^{(\frac{5}{3})} =$

$(-5)^{\frac{3}{2}} =$

Simplify by exponents laws. Answer in root form.

$3^{\frac{1}{3}} \times 3^{\frac{1}{2}} =$ $5^{\frac{1}{2}} \times 5^{\frac{1}{4}} =$ $7^{\frac{3}{8}} \times 7^{\frac{3}{4}} =$

$6^{\frac{3}{2}} \div 6^{\frac{1}{4}} =$ $\frac{2^{\frac{1}{4}}}{2^{-\frac{1}{2}}} =$ $\frac{5^{\frac{5}{2}}}{5^4} =$

$(5^{\frac{2}{3}})^{\frac{1}{4}} =$ $(7^{\frac{1}{2}})^3 =$ $(5^{0.5})^{\frac{1}{3}} =$

M10 - 5.1 - Monomial Variable Greatest Common Factor HW

Determine the Greatest Common Factor of the Following

$15, 12$

$6x, 12x$

$14, 22x$

$50, 75x$

$100y, 30y$

$3x, 2$

$2x^2, 4x$

$5a, 25a^2$

$15n, 7n^2$

$16i, 12i^2$

$45x^2, 27x$

$13y^2, 52y$

$2a, 4b$

$5n, 8a$

$15x, 33y$

$21ab, 9a$

$14y, 21xy$

$8xy, 12xy$

$9a^3, 15a^2$

$22x^2y^2, 6y^3$

$a^2b^3, 3ab^4$

$6y^3, 22x^2y^2$

$6a^2, 22a, 8$

$4b^2, 44b, 11$

$9x^2, 21x, 33$

$3a^3, 2a^2, 5a$

$15s^3, 25s^2, 45$

$21ts^2, 14ts, 49t$

$2a^2b^3, 3ab^4, 6a^2b^5$

$15xy^2, 27x^2y^2, 12y^2x^3$

M10 - 5.1 - Remove Greatest Common Factors HW

Factor the following

$2x + 4$ $12x + 8$ $3x - 12$ $-4x + 12$ $3x - 3$

$3x - 21$ $6x + 4$ $-18x - 6$ $10x - 5$ $2x - 10$

$4x^2 - 8x$ $2x^2 + 5x$ $10x^3 - 5x^2$ $2x^2 - 2x$

$4x^2 + 8x + 12$ $4x^2 + 8x + 6$ $10x^3 - 20x^2 + 10x$

$2a + 2z$ $6x(x + 5) + 7(x + 5)$ $x(x - 2) - 6(x - 2)$ $7x(2x + 5) + 3(2x + 5)$

$x^2 + 3x - 2x - 6$ $6x^2 + 12x - 3x - 6$ $1 + x - y - xy$

$x^2 + xy + 2x + 2y$ $2x^3 + 12x^2 - 5x - 30$ $2x^3 - 6x^2 - 9x + 27$

$-2 - x^2$ $-8x - 4$ $-3x - 9$

M10 - 5.2 - Identifying "a", "b" and "c" in Polynomials HW

General form: $ax^2 + bx + c$

$3x^2 + 10x + 5$

$a = 3$

$b = 10$

$c = 5$

$1y^2 - 4y + 6$

$a =$ _____

$b =$ _____

$c =$ _____

$4x^2 - 4x - 24$

$a =$ _____

$b =$ _____

$c =$ _____

$x^2 - 3x + 2$

$a = 1$

$b = -3$

$c = 2$

$2t - 3t^2 + 9$

$a =$ _____

$b =$ _____

$c =$ _____

$13 - x^2 - 6x$

$a =$ _____

$b =$ _____

$c =$ _____

$15s - 2s^2 + 18$

$a = -2$

$b = 15$

$c = 18$

$x^2 + 2x + 5$

$a =$ _____

$b =$ _____

$c =$ _____

$21 + 7x^2 - 8x$

$a =$ _____

$b =$ _____

$c =$ _____

$-2n^2 + 18$

$a = -2$

$b = 0$

$c = 18$

$7x - x^2$

$a =$ _____

$b =$ _____

$c =$ _____

$t^2 - 5t + 3$

$a =$ _____

$b =$ _____

$c =$ _____

$\frac{1}{2}b^2 - 4b + 7$

$a = \frac{1}{2}$

$b = -4$

$c = 7$

$\frac{3}{4}x + x^2$

$a =$ _____

$b =$ _____

$c =$ _____

$\frac{x}{2} + x^2$

$a =$ _____

$b =$ _____

$c =$ _____

M10 - 5.2 - Factoring $x^2 + bx + c$ "$a = 1$" HW

Factor the following

$x^2 + 5x + 6$

_____ X _____ =
_____ + _____ =

Check by foil:

$x^2 + 6x + 8$

_____ X _____ =
_____ + _____ =

$x^2 + 7x + 12$

_____ X _____ =
_____ + _____ =

$x^2 + 3x - 4$

_____ X _____ =
_____ + _____ =

$x^2 + 4x + 3$

_____ X _____ =
_____ + _____ =

$x^2 - 3x - 18$

_____ X _____ =
_____ + _____ =

$x^2 - 11x + 24$

_____ X _____ =
_____ + _____ =

$x^2 + x - 30$

_____ X _____ =
_____ + _____ =

$x^2 - 2x - 4$

_____ X _____ =
_____ + _____ =

$x^2 - 13x - 30$

_____ X _____ =
_____ + _____ =

$x^2 - 13x + 30$

_____ X _____ =
_____ + _____ =

M10 - 5.2 - Factoring $x^2 + bx + c$ "$a = 1$" HW

Factor the following

$x^2 + 15x + 54$ _____ X _____ = _____ + _____ =

Check by foil:

$x^2 + 13x + 40$ _____ X _____ = _____ + _____ =

$x^2 + 5x - 24$ _____ X _____ = _____ + _____ =

$x^2 - 13x + 36$ _____ X _____ = _____ + _____ =

$x^2 + 12x + 27$ _____ X _____ = _____ + _____ =

$x^2 + 10x + 24$ _____ X _____ = _____ + _____ =

$x^2 - 11x + 28$ _____ X _____ = _____ + _____ =

$x^2 - 10x + 21$ _____ X _____ = _____ + _____ =

$x^2 - 16x + 12$ _____ X _____ = _____ + _____ =

M10 - 5.3 - Factoring $ax^2 + bx + c$ "$a \neq 1$" HW

Factor the following

$2x^2 + 7x + 6$

_____ X _____ =
_____ + _____ =

Check by foil:

$2x^2 - 3x - 2$

_____ X _____ =
_____ + _____ =

$6x^2 + 19x + 3$

_____ X _____ =
_____ + _____ =

$5x^2 + 12x + 1$

_____ X _____ =
_____ + _____ =

$3x^2 + 13x + 4$

_____ X _____ =
_____ + _____ =

$2x^2 + 3x - 9$

_____ X _____ =
_____ + _____ =

$3x^2 - 5x - 2$

_____ X _____ =
_____ + _____ =

$6x^2 + 17x + 10$

_____ X _____ =
_____ + _____ =

$5x^2 + 13x + 9$

_____ X _____ =
_____ + _____ =

M10 - 5.3 - Factoring $ax^2 + bx + c$ "$a \neq 1$" HW

Factor the following

$2x^2 + 5x + 3$

_____ X _____ =

_____ + _____ =

$2x^2 + x - 1$

_____ X _____ =

_____ + _____ =

$3x^2 - 8x + 4$

_____ X _____ =

_____ + _____ =

$2x^2 - 9x + 10$

_____ X _____ =

_____ + _____ =

$3x^2 - 11x + 6$

_____ X _____ =

_____ + _____ =

$2x^2 - 13x + 15$

_____ X _____ =

_____ + _____ =

$5x^2 - 17x - 12$

_____ X _____ =

_____ + _____ =

$4x^2 - 8x + 5$

_____ X _____ =

_____ + _____ =

M10 - 5.3 - Factoring $ax^2 + bx + c$ "$a \neq 1$" HW

Factor the following

$2x^2 - x - 6$

_____ X _____ =

_____ + _____ =

$2x^2 + 9x + 9$

_____ X _____ =

_____ + _____ =

$4x^2 + 16x + 15$

_____ X _____ =

_____ + _____ =

$6x^2 + 16x + 8$

_____ X _____ =

_____ + _____ =

$2x^2 + 7x + 6$

_____ X _____ =

_____ + _____ =

$3x^2 + 7x + 4$

_____ X _____ =

_____ + _____ =

$3x^2 + 4x + 1$

_____ X _____ =

_____ + _____ =

$2x^2 + 3x + 4$

_____ X _____ =

_____ + _____ =

M10 - 5.3 - Perfect Squares HW

Factor the following.

$x^2 + 4x + 4$

$x^2 + 10x + 25$

$x^2 - 6x + 9$

$x^2 - 4x + 4$

$x^2 - 2x + 1$

$x^2 - 8x + 16$

$x^2 + 2x + 1$

$x^2 + 8x + 16$

$x^2 + 6x + 9$

$9x^2 + 12x + 4$

$4x^2 - 4x + 1$

$9x^2 - 12x + 4$

$9x^2 - 6x + 1$

$9x^2 + 6x + 1$

$16x^2 + 24x + 9$

M10 - 5.4 - Differences of Squares HW

Factor

$x^2 - 1$

$(____ + ____)(____ - ____)$

$x^2 - 25$

$x^2 - 16$

$x^2 - 49$

$x^2 - 36$

$x^2 - 81$

$x^2 - 64$

$x^2 - 144$

$x^2 - 121$

$x^2 - 4$

$1 - x^2$

$9 - x^2$

$4 - 9x^2$

$-x^2 + 49$

$a^2 - b^2$

$4x^2 - 9$

$4x^2 - 16$

$4x^2 - 25$

$9x^2 - 1$

$9x^2 - 49$

$16x^2 - 25$

$49 - 81x^2$

$-25 + 121x^2$

$81x^2 - 4$

$27x^2 - 48$

M10 - 5.4 - Differences of Squares HW

Factor

$4x^2 - 9y^2$

$16x^2 - 25y^2$

$49y^2 - 25x^2$

$16x^2 - 225y^2$

$64x^2 - 169$

$4x^2 - 8y^2$

$x^4 - 9$

$x^6 - 144$

$x^4 - 81$

M10 - 5.5 - Factoring out GCF, Then Factoring HW

Factor

$3x^2 + 15x + 18$

$3(x^2 + 5x + 6)$
$3(x + 2)(x + 3)$

$2x^3 - 4x^2 - 30x$

$-x^2 - 5x + 14$

$-x^4 + 11x^3 - 24x^2$

$2x^2y - 20xy + 42y$

$4x^2a - 4xa - 48a$

$4x^2 + 6x + 2$

$-4x^2 - 10x - 6$

$\frac{x^2}{2} + x + \frac{1}{2}$

$x^2 + 6x + 9$

$(x + 3)(x + 3)$
$(x + 3)^2$

$x^2 - 8x + 16$

$x^2 + 10x + 25$

$2x^2 + 24x + 72$

$3x^2 + 12x + 12$

$4x^2 - 8x + 4$

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M10 - 5.6 - Substitute to Factor, Combined Perfect Squares HW

Substitute the brackets for a variable, factor, the substitute the brackets back to solve.

$4(h-2)^2-8(h-2)+3$

$2(y+3)^2+3(y+3)-9$

$(x+1)^2-(x+1)-12$

$(x-4)^2+8(x-4)+15$

$(2+y)^2+8(2+y)+15$

$3(6-k)^2-8(6-k)+4$

$(x+1)^8-9x^2$

$(x+2)^2-(x-3)^2$

Factor and simplify as much as possible.

x^4-81

x^8-16

M10 - 5.7 - Fractions/Decimals Factoring HW

Factor

$x^2 + \frac{16}{15}x - 1$

$\frac{1}{6}x^2 - 2x - 18$

$\frac{1}{25}a^2 - \frac{1}{36}$

$\frac{1}{8}x^2 + \frac{3}{16}x - \frac{1}{8}$

$x^2 + \frac{1}{3}x - \frac{2}{3}$

$\frac{1}{16}t^2 + \frac{1}{2}t + 1$

$0.02x^2 - 0.23x + 0.3$

$t^2 + 0.2t - 0.15$

$0.02x^2 + 0.05x - 0.03$

$1.5s^2 - 0.1s - 0.6$

$0.25x^2 - 1$

M10 - 5.8 - Finding k to Factor HW

Find k that allows the polynomial to be factored

$x^2 + kx - 10$

$x^2 + kx + 20$

$3x^2 + kx - 10$

$x^2 + 8x - k$

$x^2 - 3x - k$

$23x^2 + 45x - k$

$15x^2 + kx + 2$

$12x^2 + 4x - k$

$kx^2 + 6x - 2$

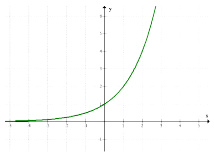
$kx^2 + 12x + 6$

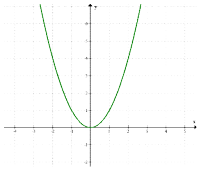
$kx^2 + 7kx + 20$

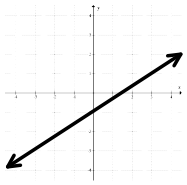
$x^2 - k$

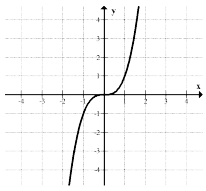
M10 - 6.1 - Linear? HW

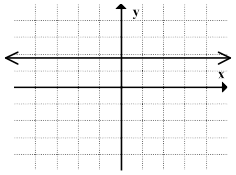
Are the following Lines Linear?

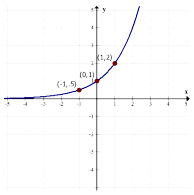


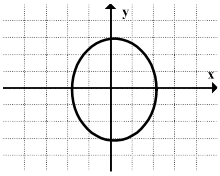


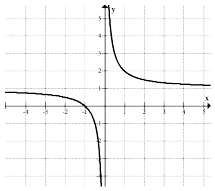


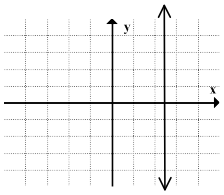


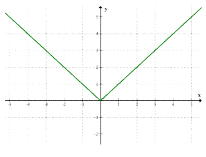


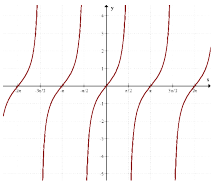


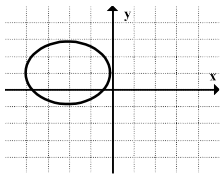


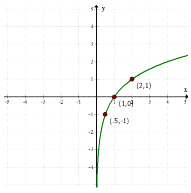


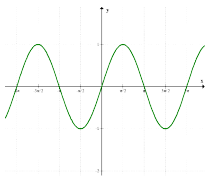


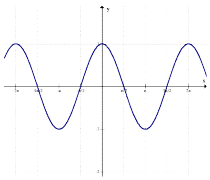


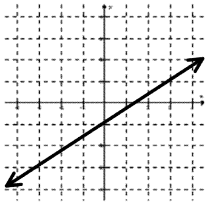










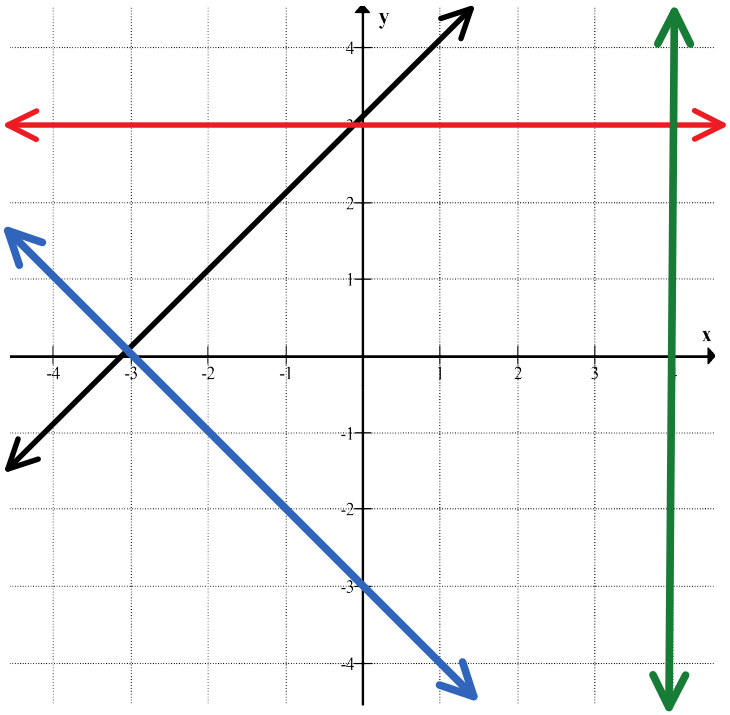


M10 - 6.2 - Pos, Neg, Zero, Undef Slope HW

Is the slope positive, negative, zero or undefined?

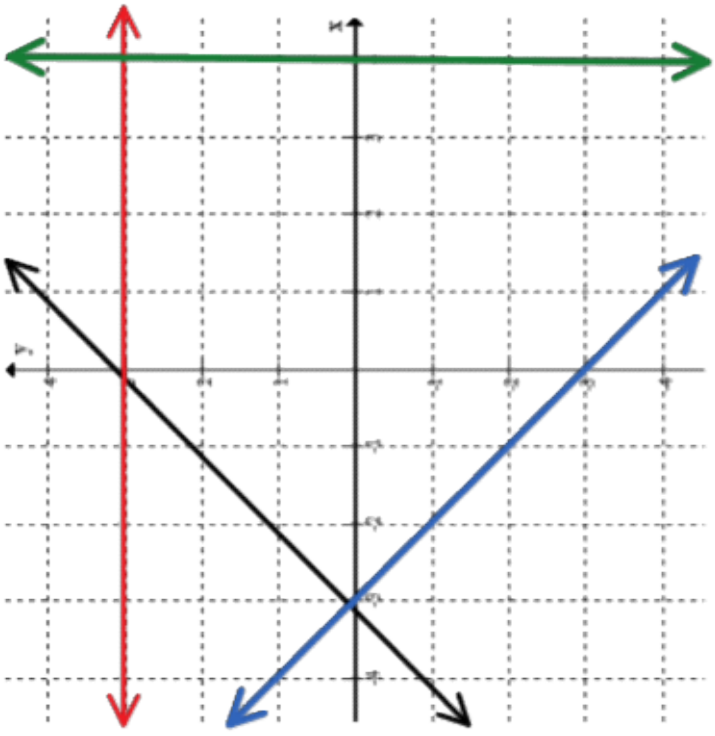
Slope =

Slope =



Slope =

Slope =



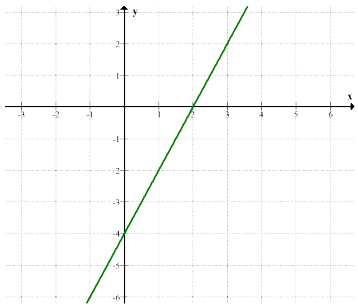
Slope =

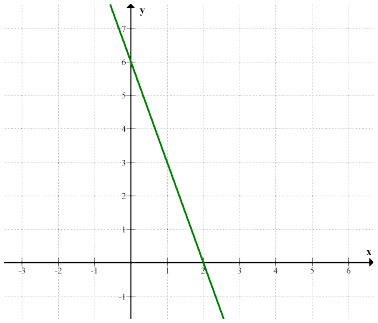
Slope =

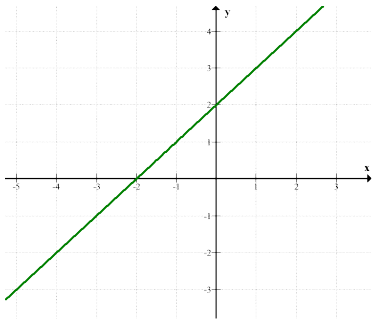
Slope =

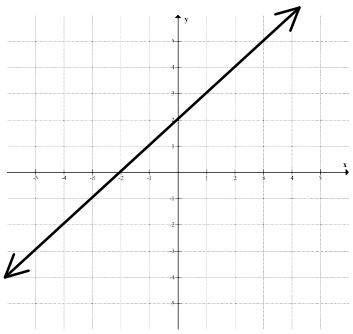
M10 - 6.3 - Graph: Find Slope HW

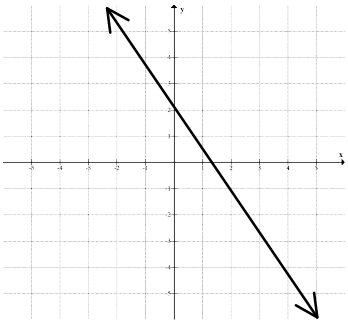
Find the Slope of the following lines.

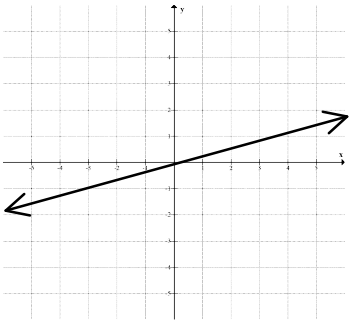


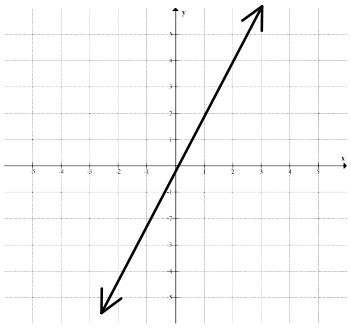


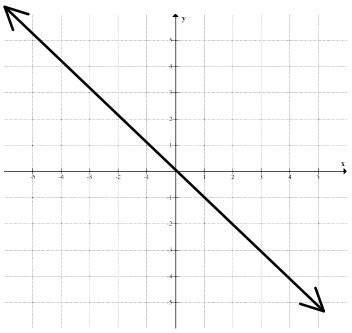


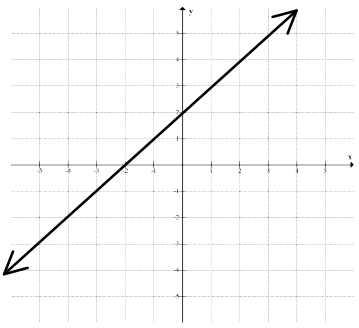


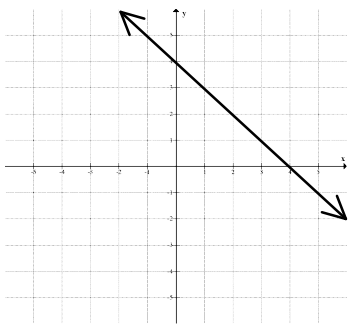


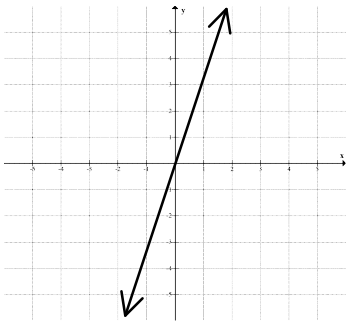


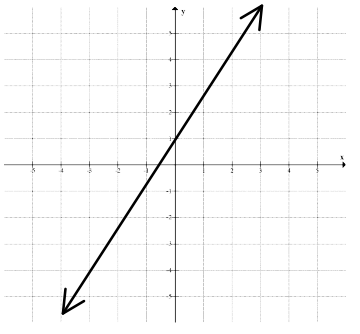








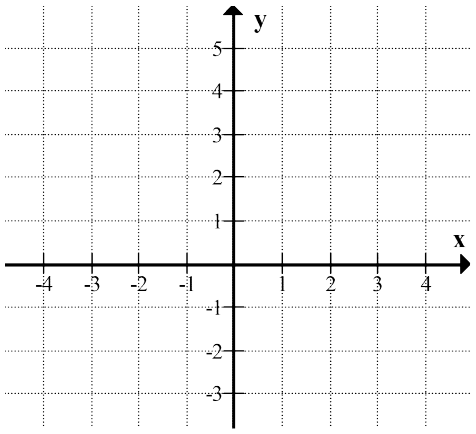




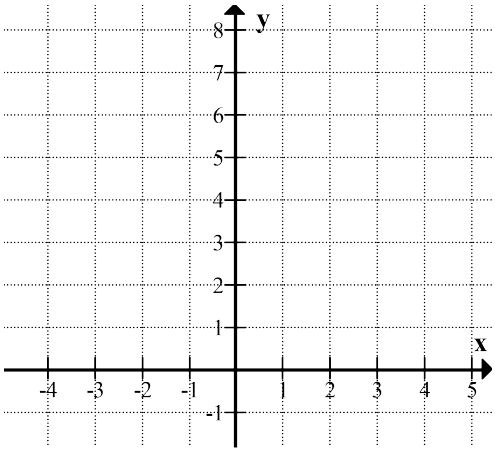
M10 - 6.3 - Graphing Slope HW

Graph the following, given a point and the slope.

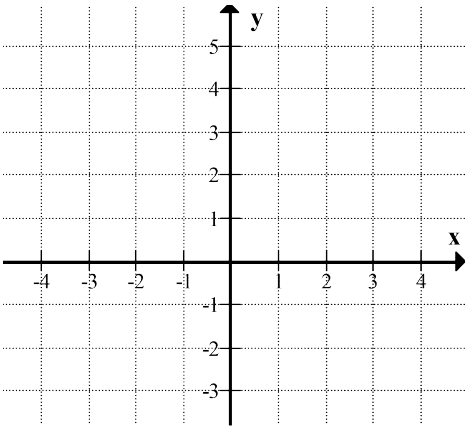
$(0,0), m = \frac{1}{2}$



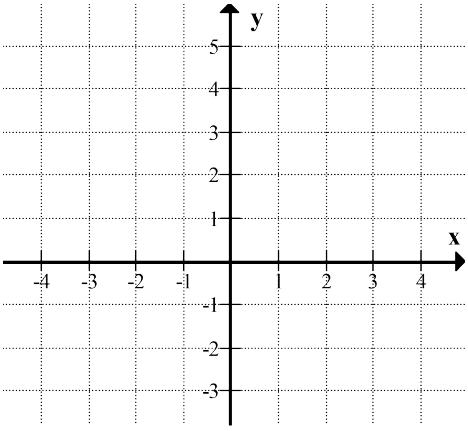
$(1,1), m = 2$



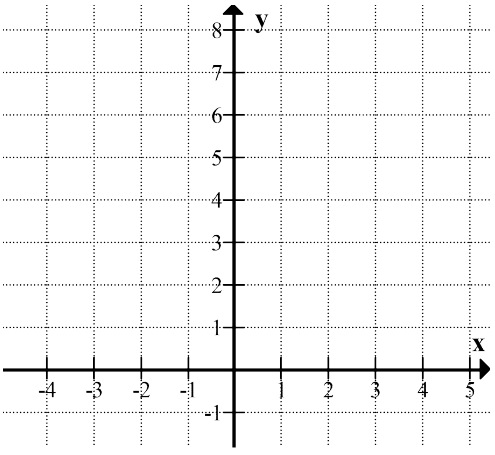
$(0,2), m = 0$



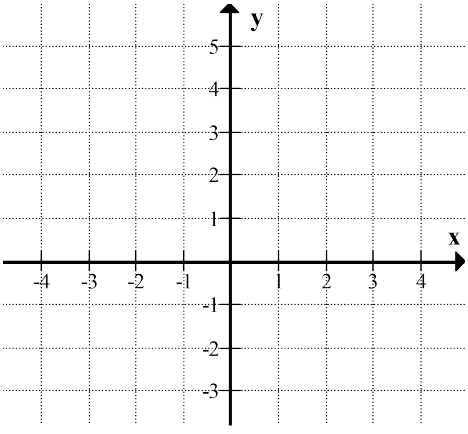
$(-2,1), m = -1$



$(-2,1), m = -\frac{3}{2}$



$(-1,-1), m = undefined$



M10 - 6.3 - Points: Find Slope HW

Find Slope

$(2,4)$ $(1,1)$ $(2,1)$ $(4,2)$ $(1,2)$ $(2,3)$

$(2,-1)$ $(4,1)$ $(-4,2)$ $(2,-1)$ $(-1,-2)$ $(-2,-3)$

$(3,-5)$ $(6,4)$ $(-3,0)$ $(5,0)$ $(9,-2)$ $(-2,5)$

$(0,2)$ $(0,3)$ $(-8,3)$ $(-5,-1)$ $(1,-4)$ $(5,-1)$

M10 - 6.3 - Points Algebra: Find n given Slope HW

Find n

$(2,4)$ $(1,n)$ $m=3$

$(2,1)$ $(n,2)$ $m=\frac{1}{2}$

$(n,2)$ $(2,3)$ $m=1$

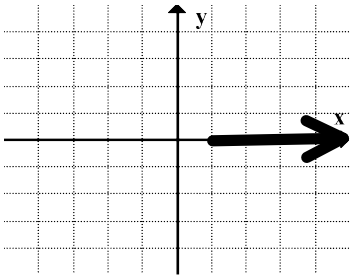
$(2,n)$ $(4,1)$ $m=2$

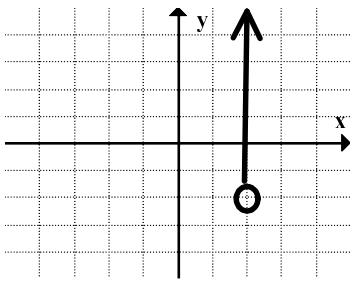
$(-4,n)$ $(2,-1)$ $m=-2$

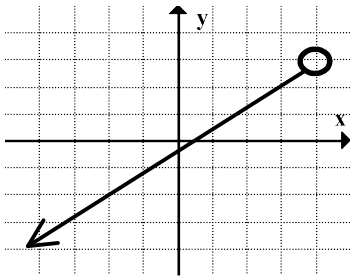
$(-1,-2)$ $(-2,n)$ $m=1$

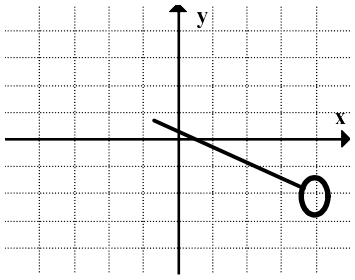
M10 - 6.5 - Words Find Domain and Range HW

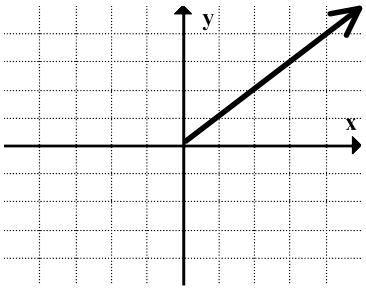
Find the Domain and Range of the following Graphs of the following lines in Words.

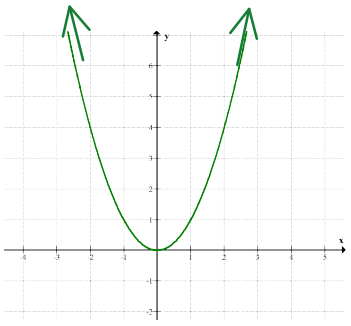


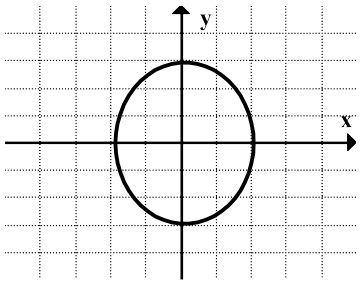


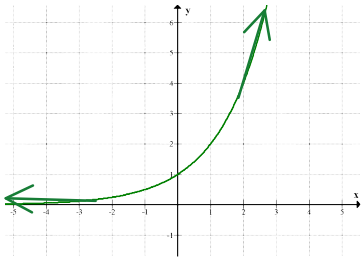


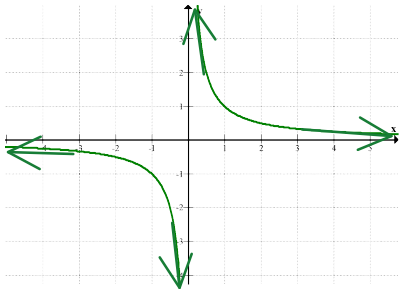






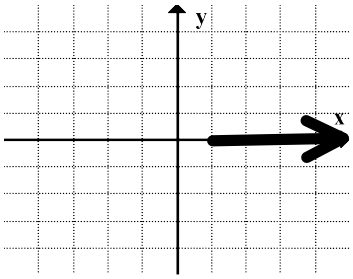


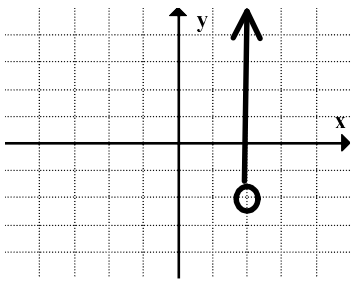


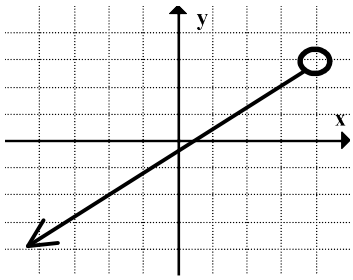


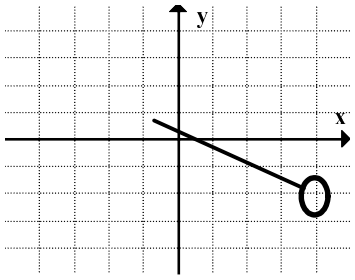
M10 - 6.5 - Interval Find Domain and Range HW

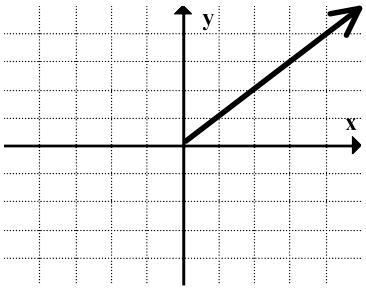
Find the Domain and Range of the following Graphs of the following lines in interval Notation.

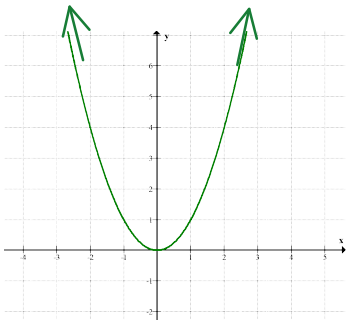


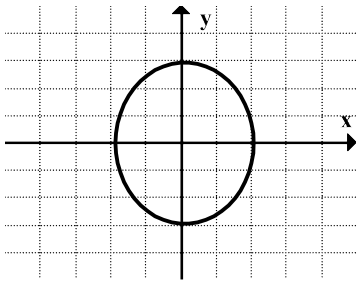


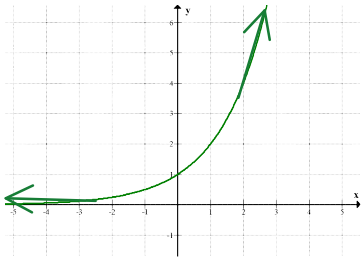


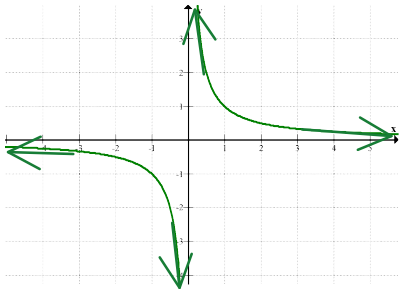






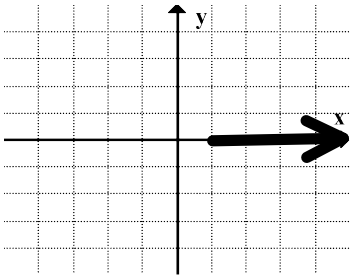


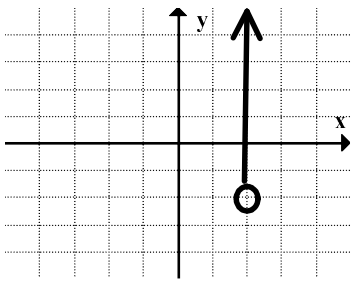


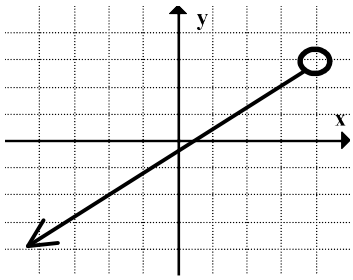


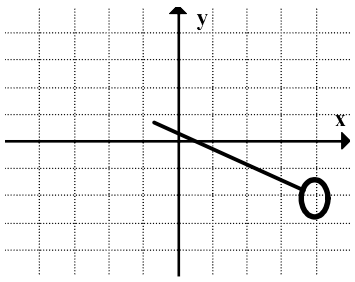
M10 - 6.5 - Set Find Domain and Range HW

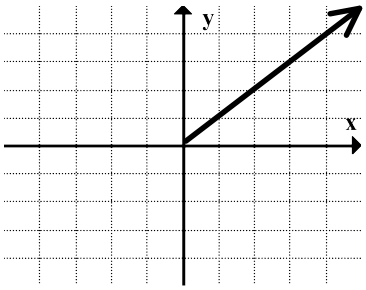
Find the Domain and Range of the following Graphs of the following lines in Set Notation.

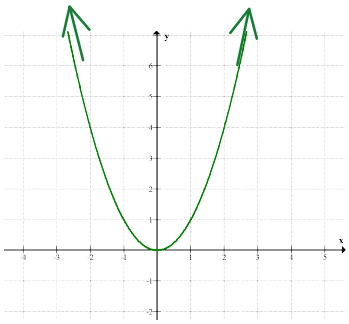


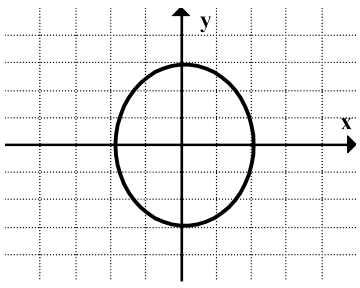


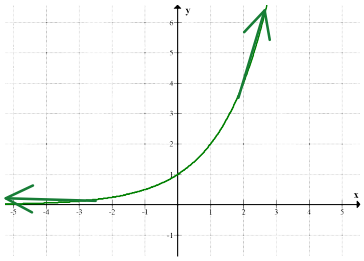


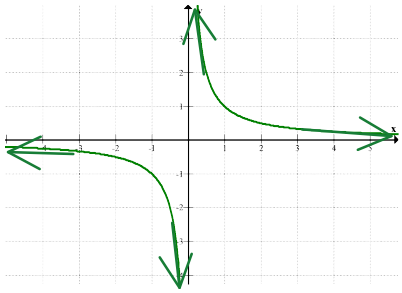






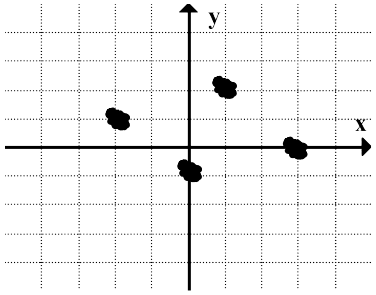


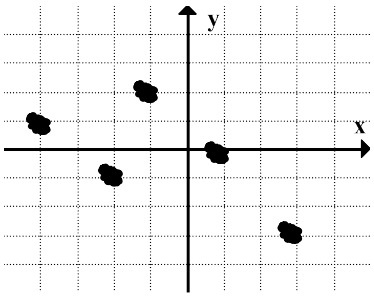


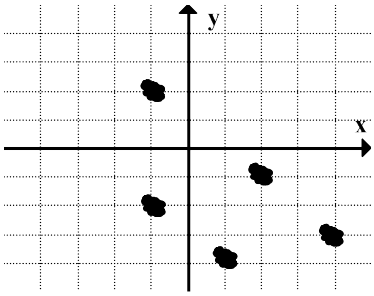


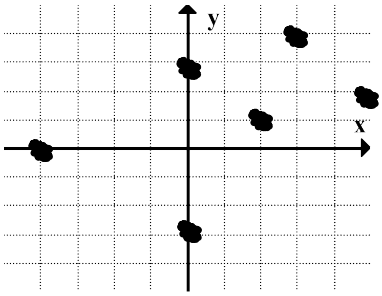
M10 - 6.5 - List Find Domain and Range HW

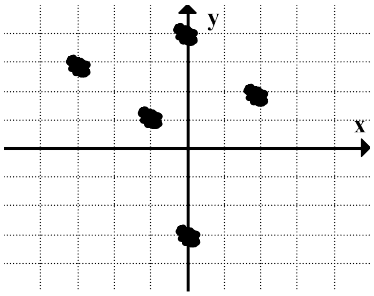
Find the Domain and Range of the following Graphs of the following as a List.

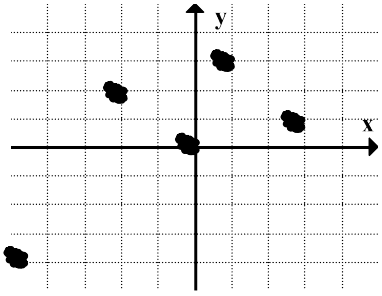












M10 - 6.6 - Function or Relation HW

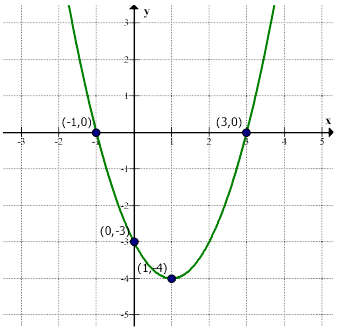
Is the following a function or a relation?

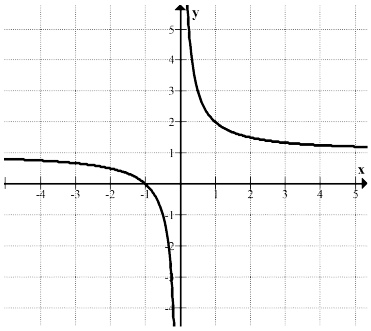
(1,2), (2,3), (3,4), (4,5)

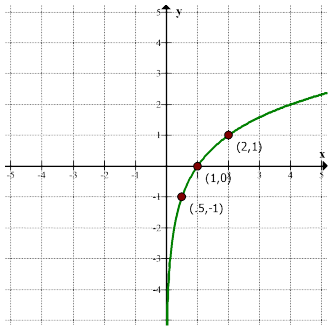
x	y
2	2
2	3
3	4
4	5

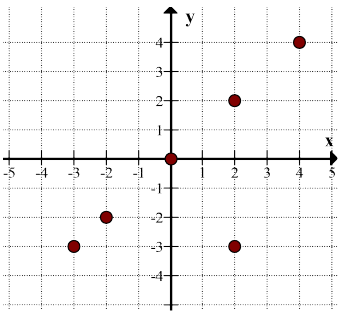
x	y
1	2
2	3
3	4
4	5

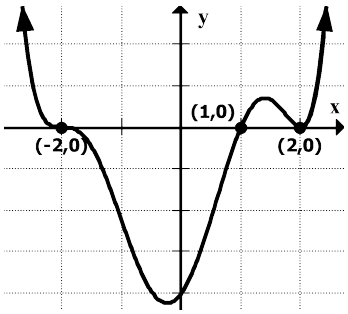
(2,2), (2,3), (3,4), (4,5)

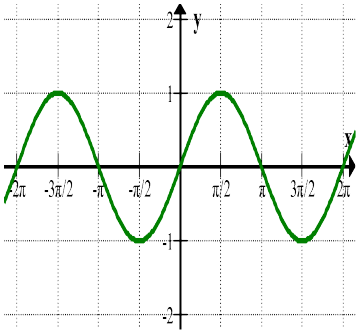


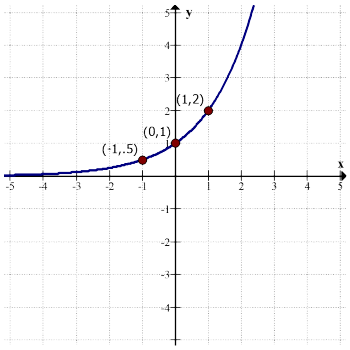


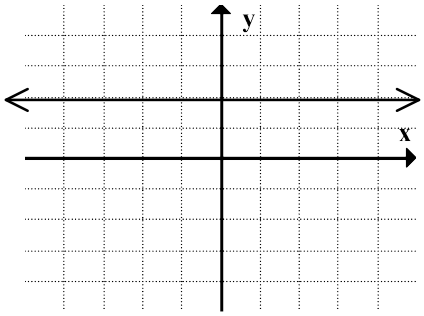


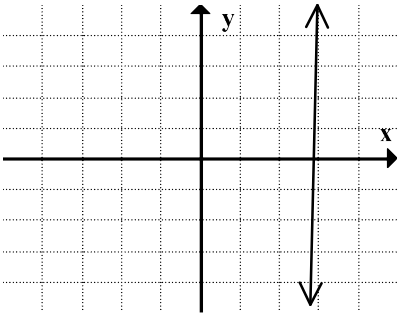






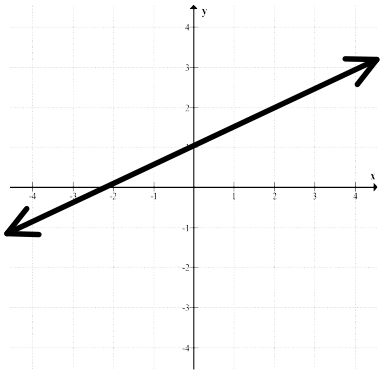
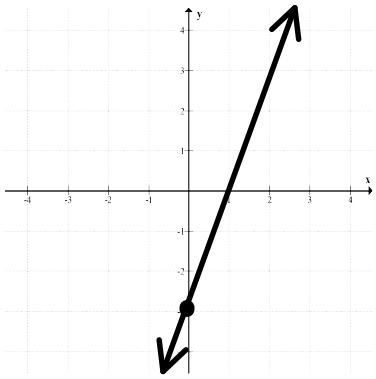
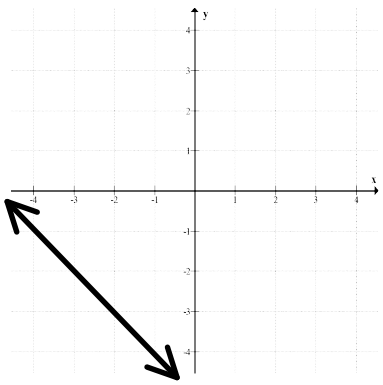
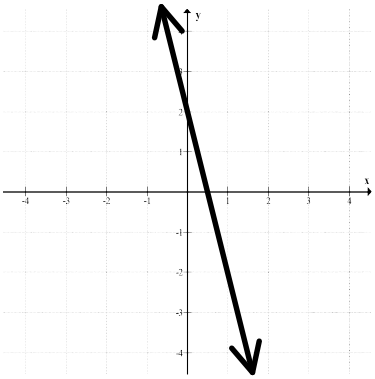
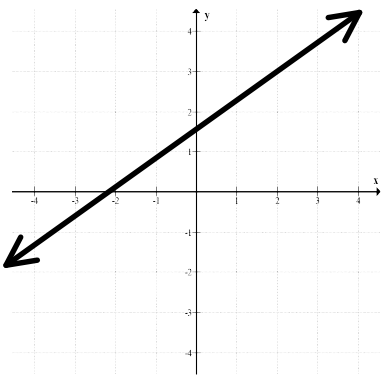
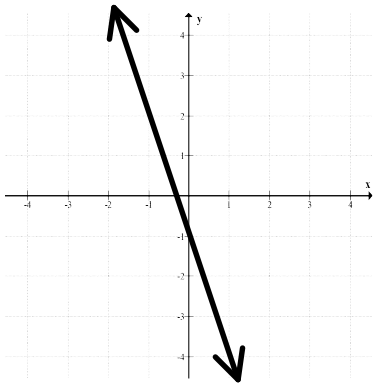




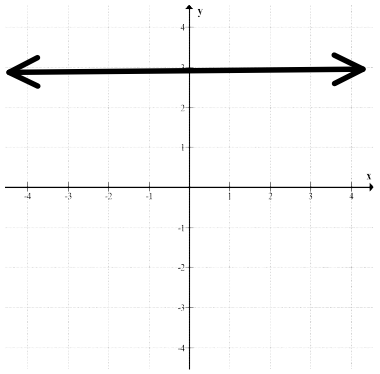
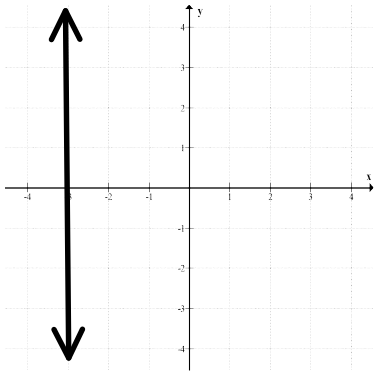


M10 - 7.1 - Find x & y-Intercept HW

Find and label the x & y-intercept and Slope of the following lines.

Find and label Intercepts, state multiple Points, Slope, and Equation of the following graphs.

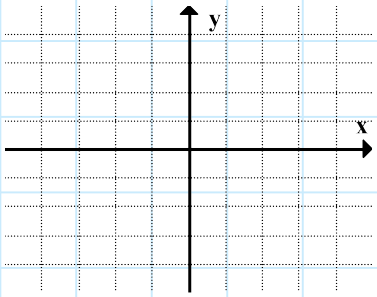



M10 - 7.1 - Graphing Standard Form HW

Graph the line using the x and y intercept method

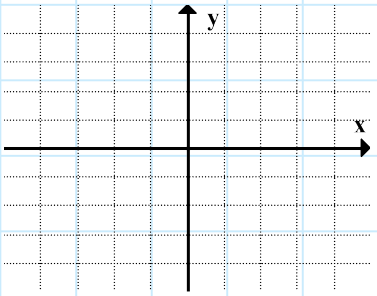
$6x + 3y = 12$

x	y
0	
	0



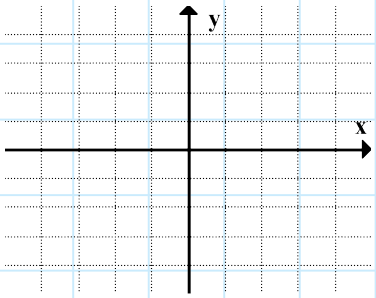
$5x + 4y = 20$

x	y
0	
	0



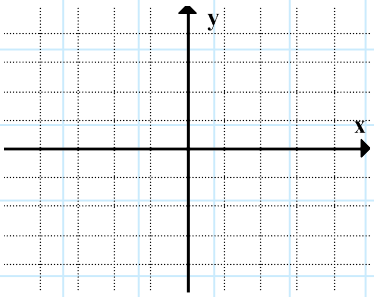
$3x + 2y = 6$

x	y
0	
	0



$4x + 2y = 8$

x	y
0	
	0

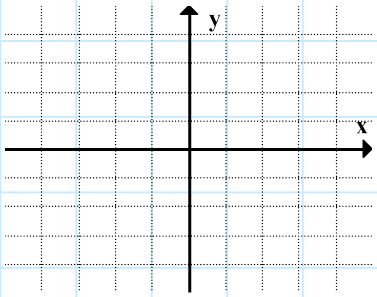


M10 - 7.1 - Graphing Standard Form HW

Graph the line using the x and y intercept method

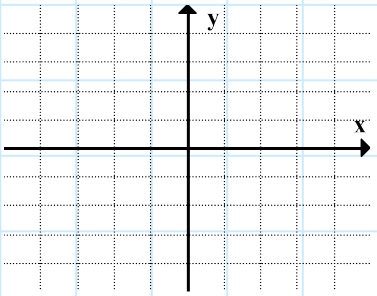
$2y + 3x + 6 = 0$

x	y
0	
	0



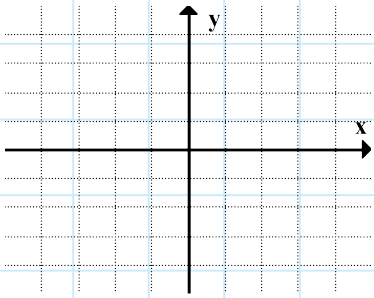
$y - x - 2 = 0$

x	y
0	
	0



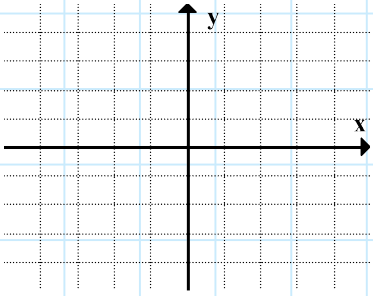
$x - 2y + 2 = 4$

x	y
0	
	0



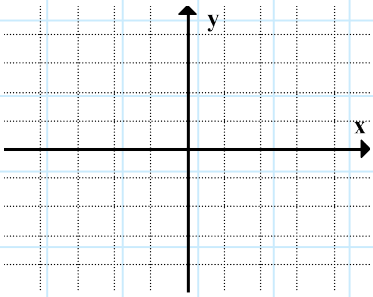
$x - 2 = 0$

x	y
0	
	0



$y = 0$

x	y
0	
	0



M10 - 7.2 - $y - int$/Slope: Slope Intercept Form HW

Write in $y = mx + b$.

$Slope = -2, y - intercept = 3$

$Slope = 4, y - intercept = -1$

$Slope = \frac{3}{2}, y - intercept = 2$

$Slope = -0.5, y - intercept = -4$

$Slope = 1, y - intercept = 0$

$Slope = -1, y - intercept = \frac{1}{2}$

$Slope = 0, y - intercept = 0$

$Slope = undefined, x - intercept = 3$

$Slope = -\frac{1}{2}, y - intercept = 5$

$Slope = \frac{3}{2}, y - intercept = -3$

$Slope = 3, y - intercept = -2$

$Slope = -0.2, y - intercept = -2$

$Slope = 2, y - intercept = 0$

$Slope = -2, y - intercept = \frac{3}{2}$

$Slope = 1, y - intercept = 0$

$Slope = undefined, x - intercept = 0$

M10 - 7.2 - Find Slope and y-Intercept HW

Identify slope and y-intercept.

$y = 2x + 1$

$y = -3x - 4$

$y = x$

$y = 4$

$y = -\frac{1}{3}x + 4$

$x = 3$

$y = 2x + 3$

$y = \frac{3}{2}x - 2$

$y = 5$

$x = 0$

$y = \frac{1}{2}x$

$y = 0$

$y = -2x + 7$

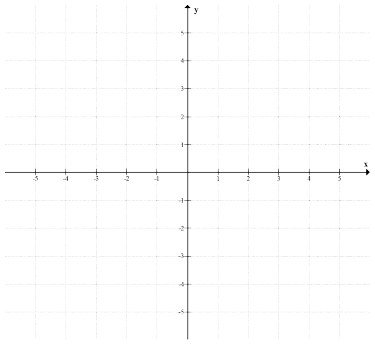
$y = 3x$

$y = 0.2x + 1$

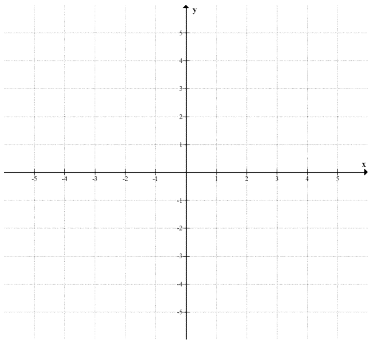
M10 - 7.2 - Graph Slope Intercept HW

Graph the Following

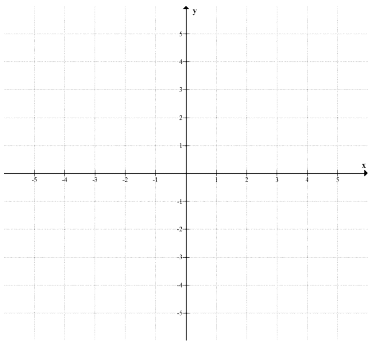
$y = x + 1$



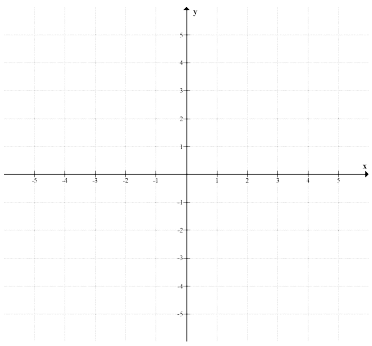
$y = -x - 2$



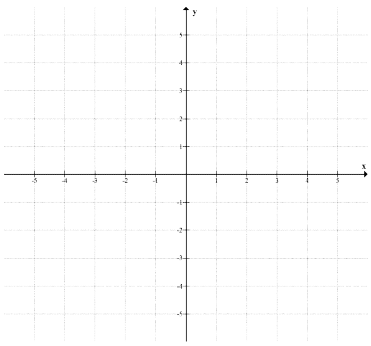
$y = 2x + 1$



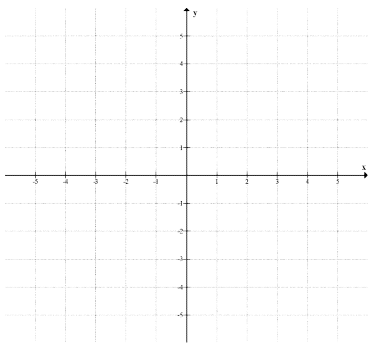
$y = 3x$



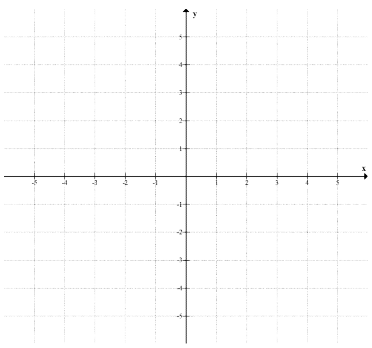
$y = \frac{1}{2}x - 3$



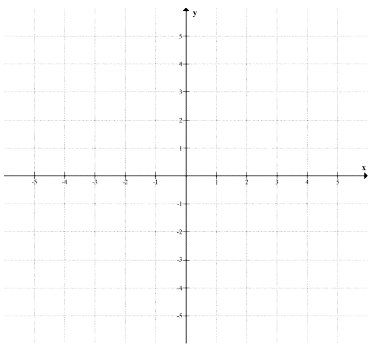
$y = -2x + 4$



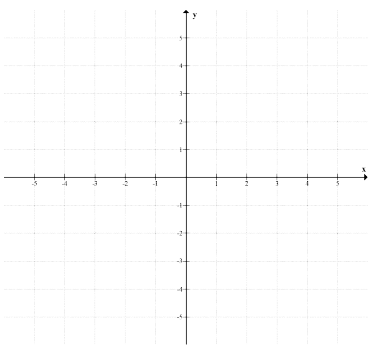
$y = -\frac{3}{2}x + 2$



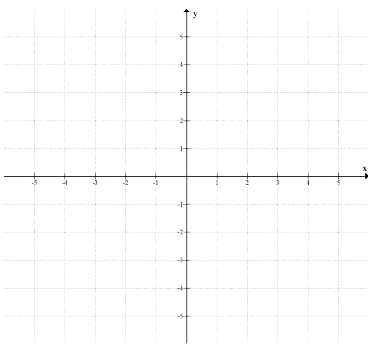
$y = 3x + 5$



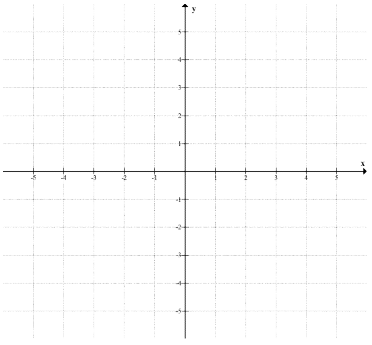
$y = 3x - 4$



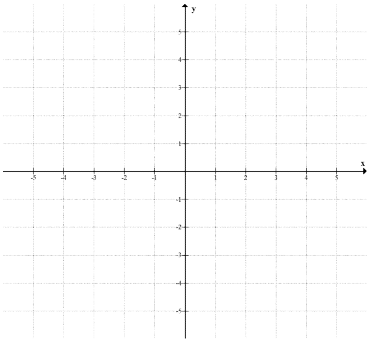
$y = 5$



$x = 2$

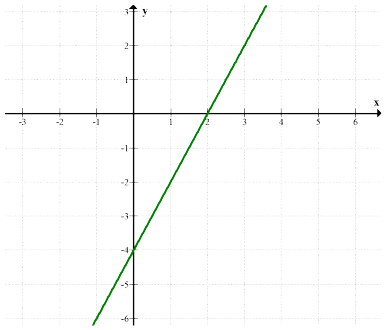


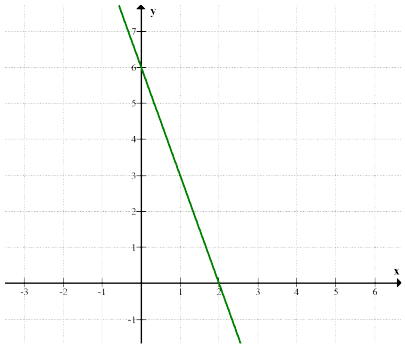
$y = -\frac{1}{5}x - 2$

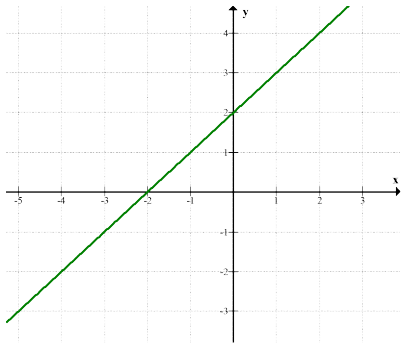


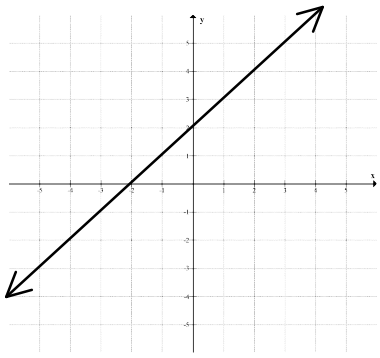
M10 - 7.2 - Find Equation Slope Intercept Form HW

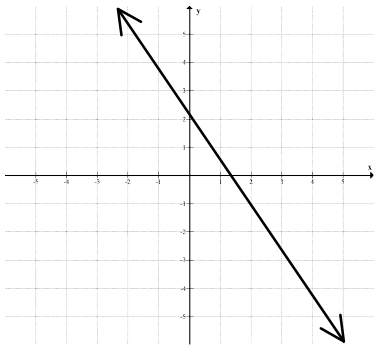
Find the equations in Slope Intercept Form of the following lines.

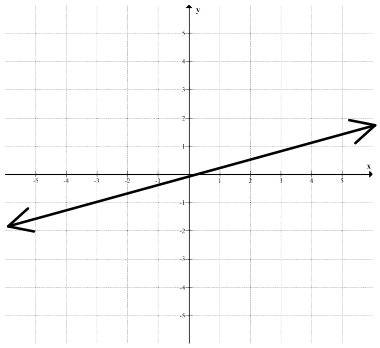


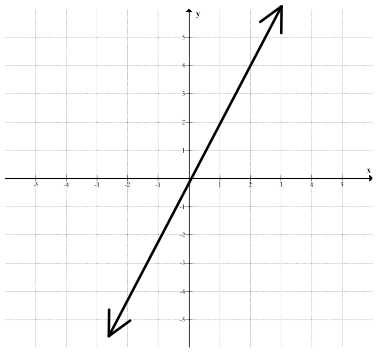


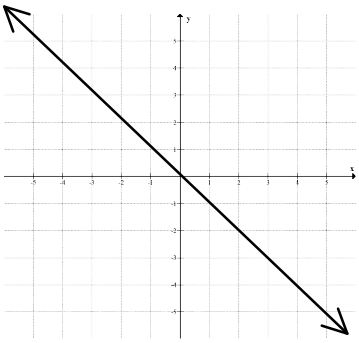


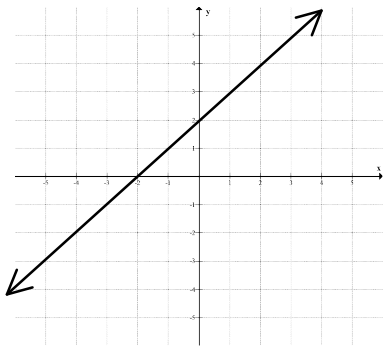


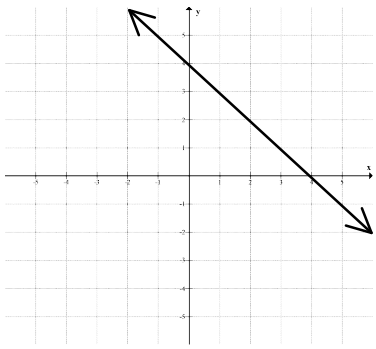


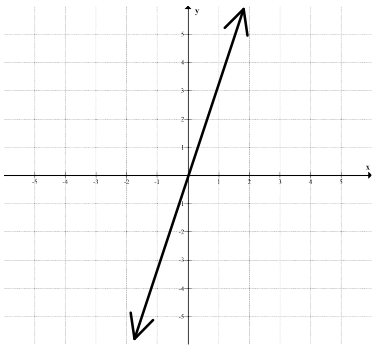


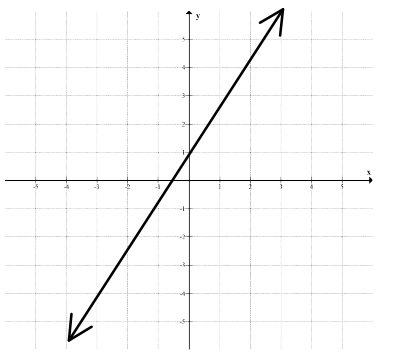












M10 - 7.3 - Identify Slope/Point Slope Point Form HW

Identify the slope and the point of the following equation.

$y - 1 = 2(x - 2)$

$y + 3 = \frac{1}{3}(x - 2)$

$y - 2 = 2(x + 1)$

$y - 2 = (x - 1)$

$y + 3 = 2(x - 1)$

$y + 5 = \frac{1}{2}(x + 1)$

$y - 3 = -\frac{2}{3}(x + 1)$

$y + 4 = -(x + 2)$

$y = 2(x - 1)$

$y + 2 = (x)$

$y + 2 = -\frac{1}{2}(x + 1)$

$y = (x)$

M10 - 7.3 - Point/Slope: Find Eq. Slope Point Form HW $y - y_1 = m(x - x_1)$

Write in slope-point form.

$(1,2)$, $m = 2$

$(2,-3)$, $m = 4$

$(-2,3)$, $m = 2$

$(-3,-2)$, $m = \frac{1}{2}$

$(1,5)$, $m = -\frac{2}{3}$

$(-2,-3)$, $m = -2$

$(-2,-4)$, $m = -5$

$(2,-3)$, $m = -1$

$(-1,-3)$, $m = \frac{1}{2}$

$(0,5)$, $m = -2$

$(6,-2)$, $m = -\frac{4}{3}$

$(-1,-5)$, $m = 1$

$(-3,-1)$, $m = -\frac{5}{4}$

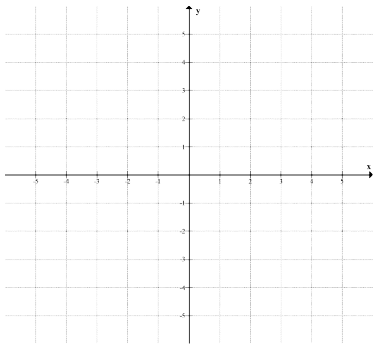
$(1,0)$, $m = -\frac{2}{3}$

$(-1,-2)$, $m = -6$

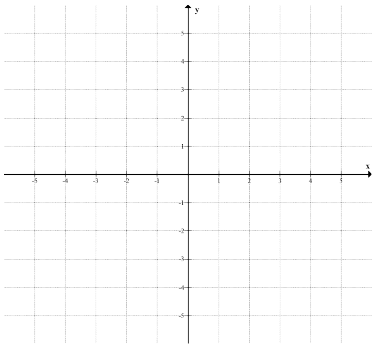
M10 - 7.3 - Graph Slope Point HW

Graph the Following

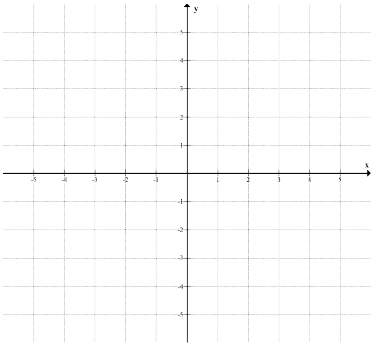
$y - 1 = 2(x - 2)$



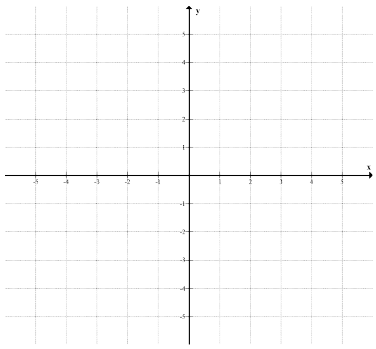
$y + 3 = \frac{1}{3}(x - 2)$



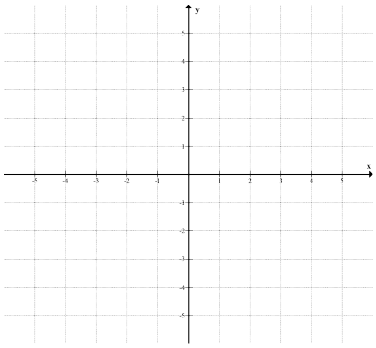
$y - 2 = 2(x + 1)$



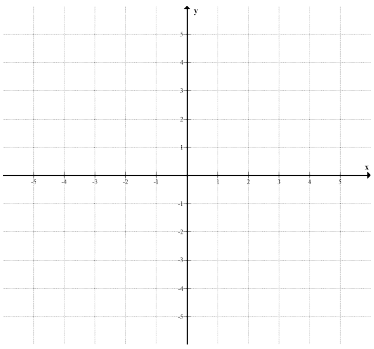
$y - 2 = (x - 1)$



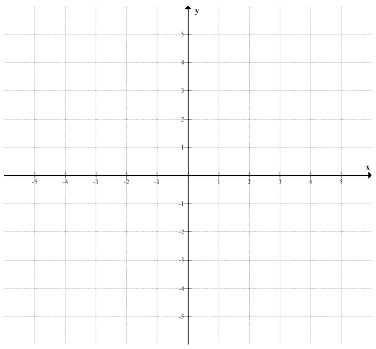
$y + 3 = 2(x - 1)$



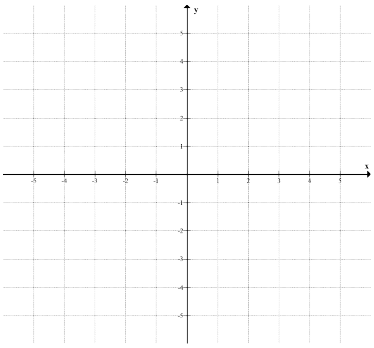
$y + 5 = \frac{1}{2}(x + 1)$



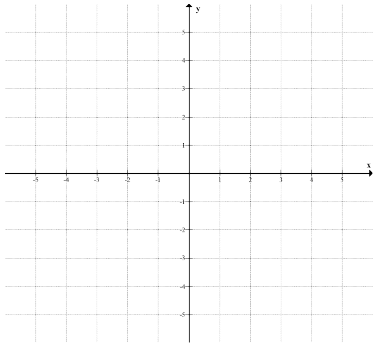
$y - 3 = -\frac{2}{3}(x + 1)$



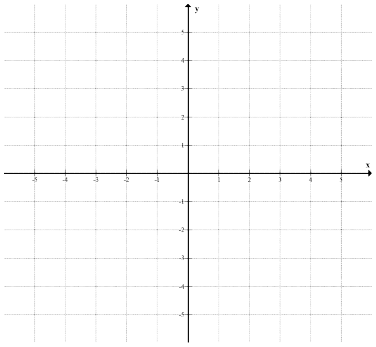
$y + 4 = -(x + 2)$



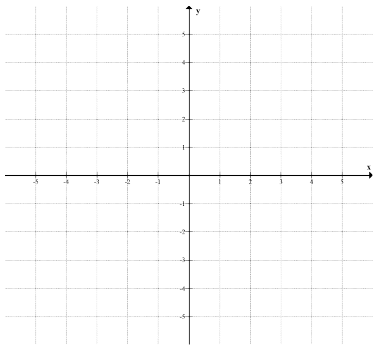
$y = 2(x - 1)$



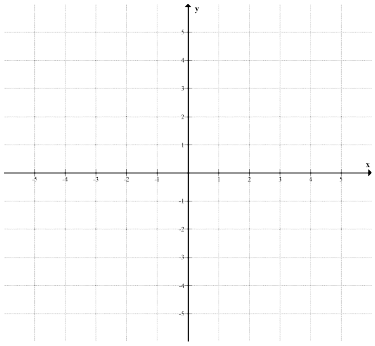
$y + 2 = (x)$



$y + 2 = -\frac{1}{2}(x + 1)$

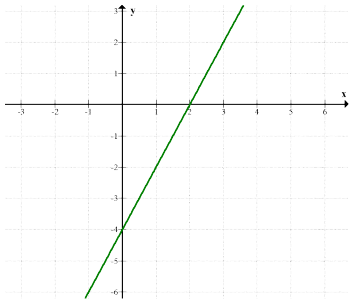


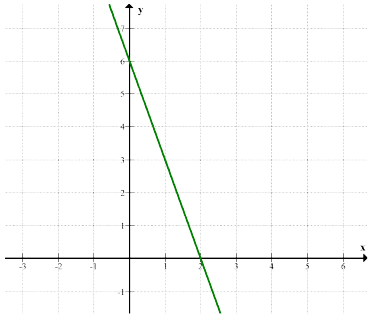
$y = (x)$

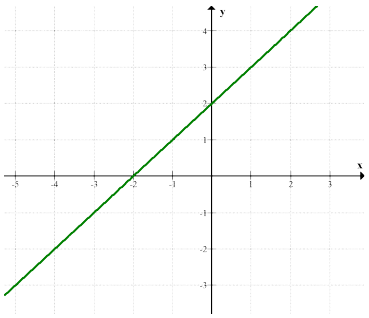


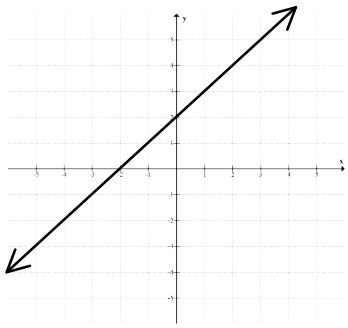
M10 - 7.3 - Graph: Find Equation Slope Point Form HW

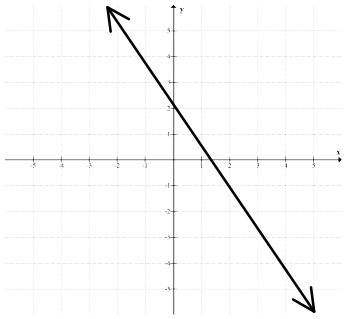
Find the equations in Slope Point Form of the following lines

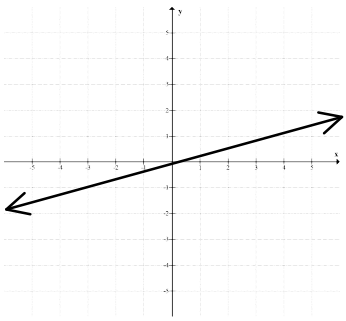


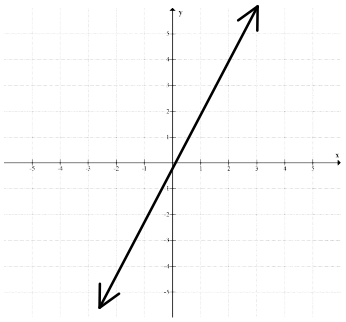


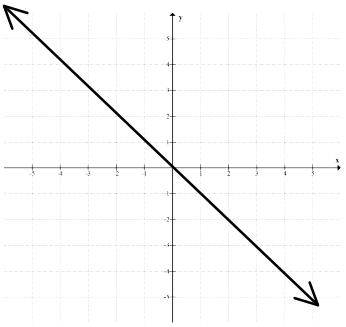


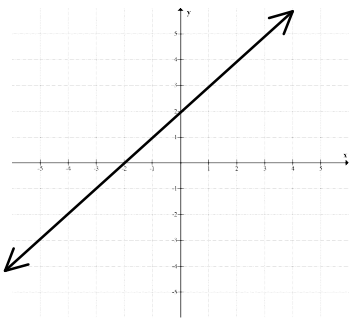


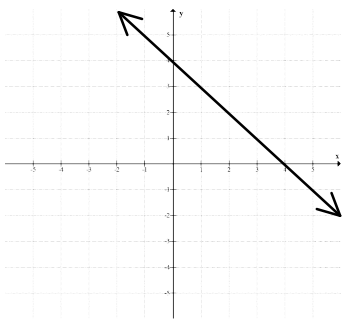


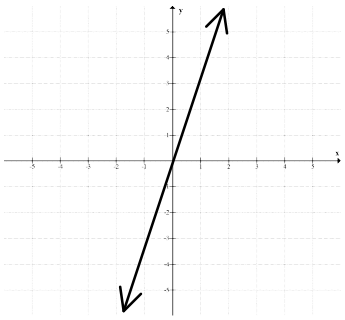


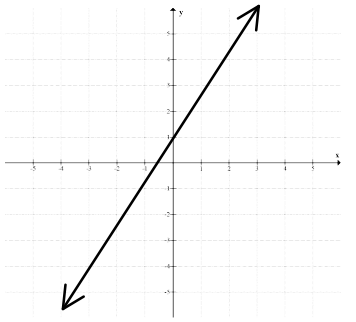












M10 - 7.4 - Point/Slope: Slope Intercept Form HW

Write in $y = mx + b$

$(1,3)$, $m = 2$

$(-2,3)$, $m = 2$

$(-2,-3)$, $m = -2$

$(-3,-2)$, $m = \frac{1}{2}$

$(2,-3)$, $m = 0$

$(1,5)$, $m = und$

$(1,2)$, $m = -6$

$(2,-3)$, $m = -1$

$(-1,-3)$, $m = \frac{1}{2}$

$(0,5)$, $m = -2$

$(6,-2)$, $m = -\frac{4}{3}$

$(-1,-5)$, $m = 1$

M10 - 7.4 - Slope Point Form - Slope Intercept Form HW

Write in Slope Intercept Form

$y - 1 = 3(x - 4)$

$y - 1 = 3x - 12$

$+1 \quad +1$

$y = 3x - 11$

$y - 4 = 2(x - 1)$

$y - 6 = 4(x - 3)$

$y + 5 = 3(x - 4)$

$y + 3 = 1(x - 2)$

$y + 6 = 4(x - 4)$

$y - 9 = 7(x + 5)$

$y - 7 = 5(x + 1)$

$y - 3 = 1(x + 4)$

$y + 5 = 3(x + 5)$

$y + 4 = \frac{2}{3}(x + 3)$

$y + 8 = 6(x + 5)$

$y - 4 = -2(x - 1)$

$y - 3 = -1(x - 2)$

$y + 7 = -\frac{5}{2}(x - 3)$

$y + 10 = -\frac{8}{3}(x + 5)$

$y - 10 = -8(x + 1)$

$-y - 5 = \frac{3}{2}(x - 1)$

M10 - 7.4 - Slope Intercept Form - General Form HW

Write in General Form

$y = 1x + 4$

$y = 5x + 9$

$y = 6x + 8$

$y = 1x - 8$

$y = 8x - 2$

$y = 7x - 3$

$y = \frac{1}{2}x - 5$

$y = \frac{4}{3}x + 5$

$y = -\frac{2}{3}x + 5$

$\frac{y}{2} = -\frac{2}{3}x - 2$

$y = 8x$

$y = 9$

M10 - 7.4 - Slope Point Form - General Form HW

Write in General Form

$y - 4 = 3(x - 1)$

$y - 4 = 3x - 3$

$+4 \qquad +4$

$y = 3x + 1$

$-y \quad -y$

$0 = 3x - y - 1$

$y - 4 = 2(x - 5)$

$y - 8 = 6(x - 3)$

$y - 7 = 5(x + 2)$

$y - 2 = \frac{1}{2}(x + 5)$

$y + 6 = 4(x - 5)$

$y + 3 = 1(x - 2)$

$y + 4 = \frac{2}{3}(x + 4)$

$y + 4 = 2(x + 5)$

$y - 9 = -\frac{7}{3}(x - 2)$

$y - 4 = -2(x + 4)$

$y + 9 = -3(x - 1)$

M10 - 7.4 - General Form - Slope Intercept Form HW

Write in Slope Intercept Form

$3x + 1y + 3 = 0$

$3x + y + 3 = 0$

$-3x \quad -3x$

$y + 3 = -3x$

$-3 \quad -3$

$y = -3x - 3$

$x + y + 4 = 0$

$2x - y + 4 = 0$

$8x + 8y - 8 = 0$

$2x + \frac{1}{2}y - 4 = 0$

$16x + 4y - 4 = 0$

$-32x + 8y + 16 = 0$

$-8x + \frac{4}{3}y - 12 = 0$

$-\frac{3}{2}x - 3y + 12 = 0$

$\frac{1}{2}x - \frac{2}{3}y + 9 = 0$

$-\frac{2}{3}x + \frac{1}{6}y - 2 = 0$

$-1x - 1y - 3 = 0$

M10 - 7.5 - Parallel and Perpendicular Slope HW

Find the parallel and perpendicular slope to the following slopes.

$m = 2$ $m = -3$ $m = \frac{-1}{2}$

$Parallel: m = 2$

$Perpendicular: m = -\frac{1}{2}$

$m = \frac{2}{3}$ $m = 0$ $m = undefined$

Find the slope of the line, and the slope of the line parallel and perpendicular to it.

$y = \frac{3}{4}x + 7$ $2x + 3y = 5$ $y - 2 = 3(x - 4)$

$y = 5$ $x + 2 = 0$ $y + 1 = -\frac{1}{2}(x + 2)$

A line passes through $(1,7)$ and $(-3,-1)$. What is the slope of a line parallel and perpendicular to this line.

M10 - 7.5 - Parallel/Perpendicular Lines HW

Find the value of "p" if the lines are parallel, and if the lines are perpendicular.

$m = \frac{p}{5}, m = 2$ Parallel Perpendicular

$m = \frac{8}{p}, m = \frac{-1}{2}$ Parallel Perpendicular

Are the following parallel, perpendicular, or neither?

$y = -2x + 1$
$y = 2x + 4$

$y = 3x + 5$
$y = \frac{-1}{3}x - 2$

$y = x + 9$
$y = x + 2$

Find the equation parallel to the following line, passing through the following point.

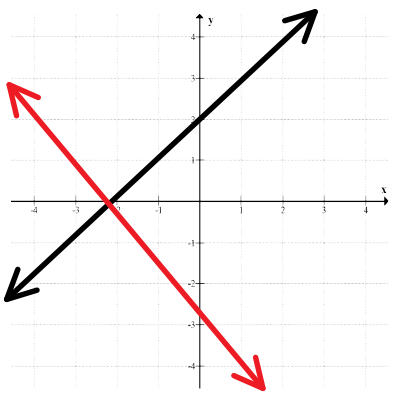
$y = 2x + 1, (3,5)$

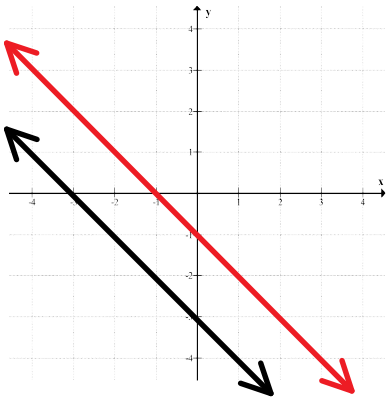
Find the equation perpendicular to the following line, passing through the following point.

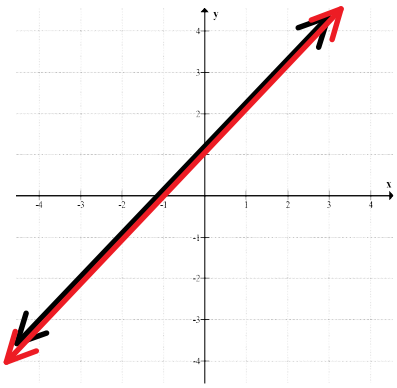
$y = 3x + 2, (6, -3)$

M10 - 8.1 - Number of Solutions Systems HW

How many solutions do the following graphs have.







Find the number of solutions of the following equations without Graphing.

$y = 2x - 3$
$y = x + 4$

$y = 3x - 8$
$y = 3x + 2$

$y = x + 1$
$y = x + 1$

$2x - y - 3 = 0$
$x - y + 4 = 0$

$6x - 2y = 16$
$6x - 2y + 4 = 0$

$6x + 2y - 6 = 0$
$y = -3x + 3$

In words, describe the graphs of two lines with the following outcomes.

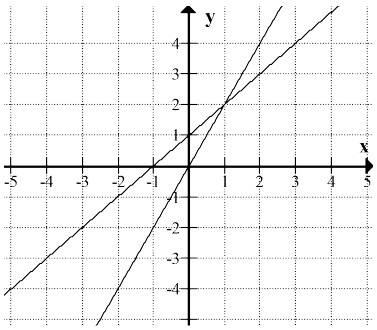
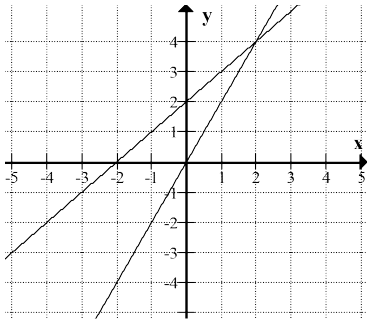
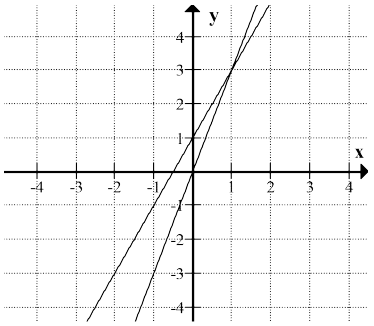
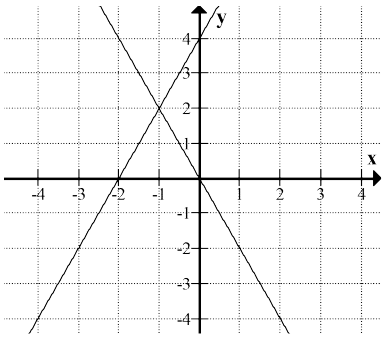
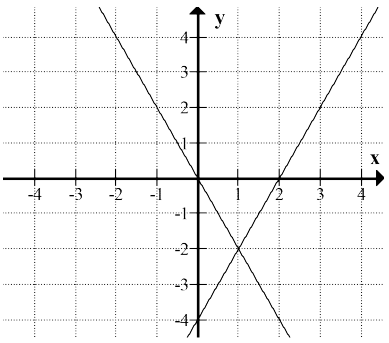
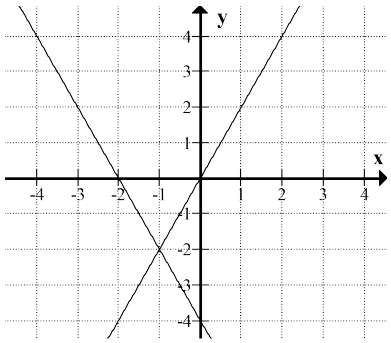
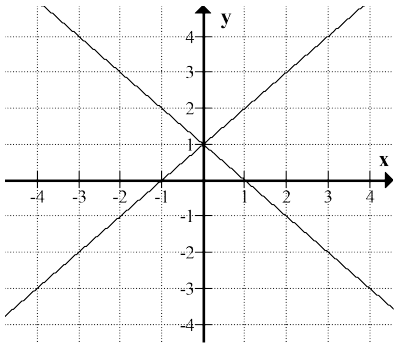
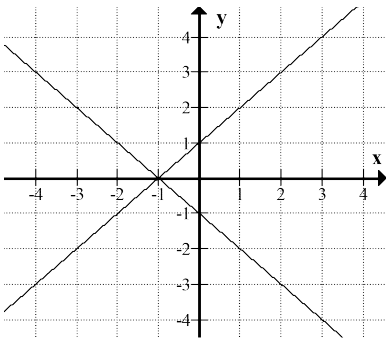
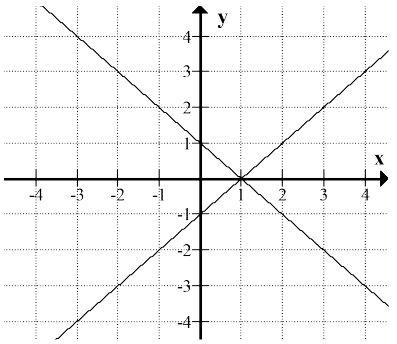
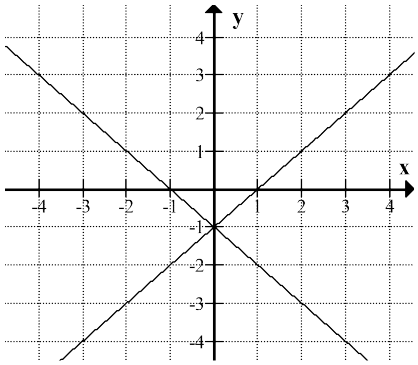
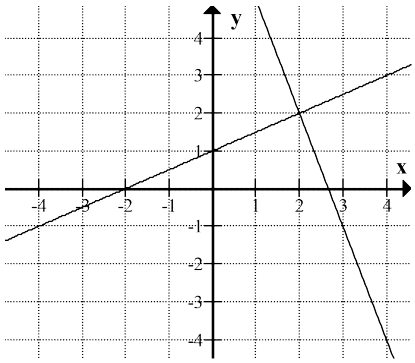
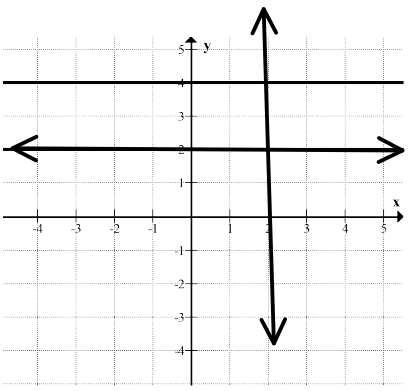
Infinite number of solutions

No solution

One solution

M10 - 8.1 - Graph: Find Intersection HW

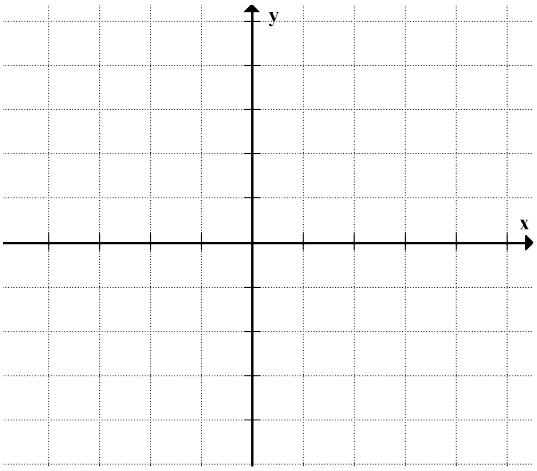
Write the intersection point of the following graphs.

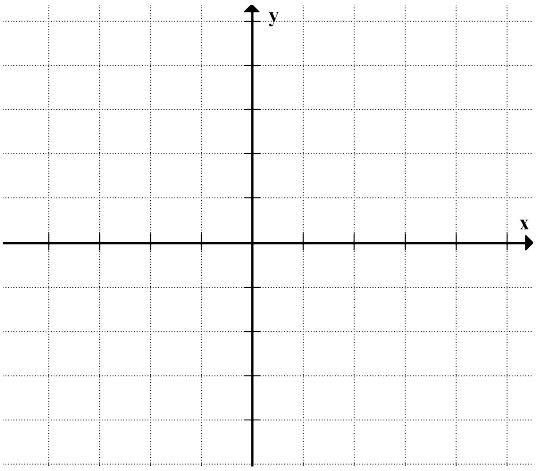
M10 - 8.1 - Solving Graphically HW

Solve for the intersection point by drawing the graphs.

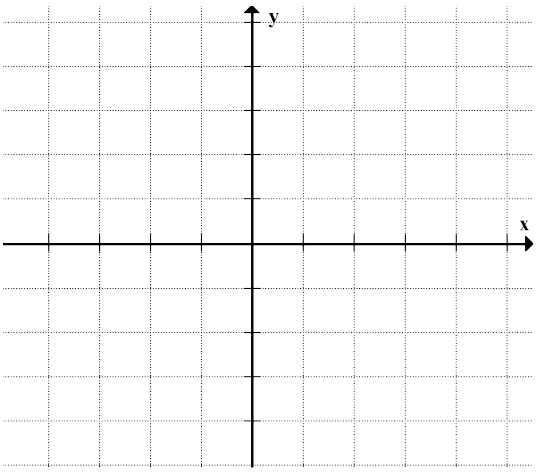
$y = 2x - 1$ $y = x$



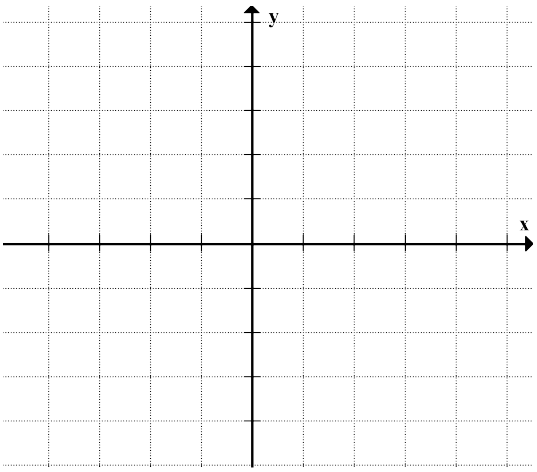
$y = 3x$ $y = x$



$y = \frac{1}{2}x + 1$ $y = x - 1$



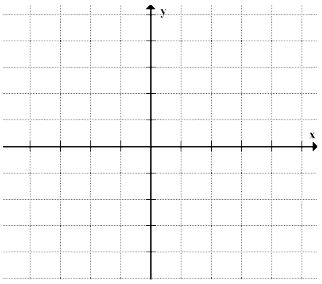
$y = x + 1$ $y = -2x + 4$



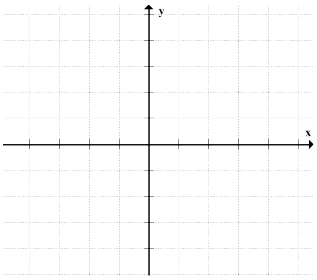
M10 - 8.2 - Point On Line HW

Is $(2,3)$ *a point on the line*?

$y = x + 1$

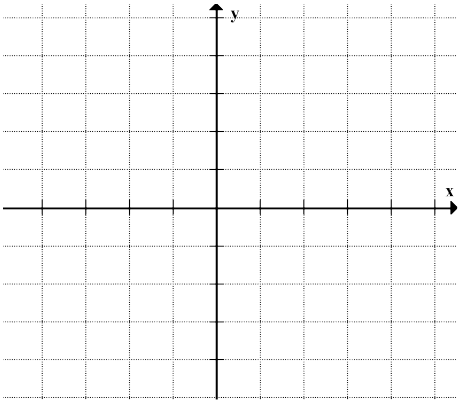


$y = -2x + 4$



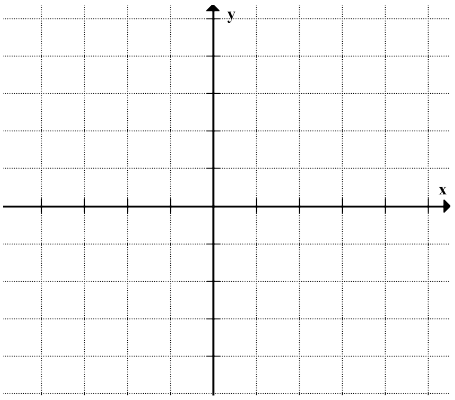
Is $(-2,1)$ *the intersection of the following pairs of lines*?

$y = x + 3$ $y = -3x - 5$



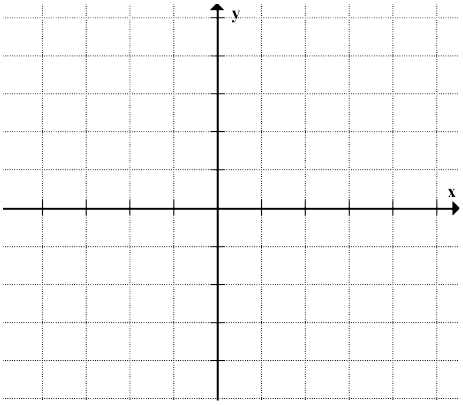
Is $(3,-2)$ *the intersection of the following pairs of lines*?

$y = x - 5$ $y = 2x - 6$



Is $(5,-1)$ *the intersection of the following pairs of lines*?

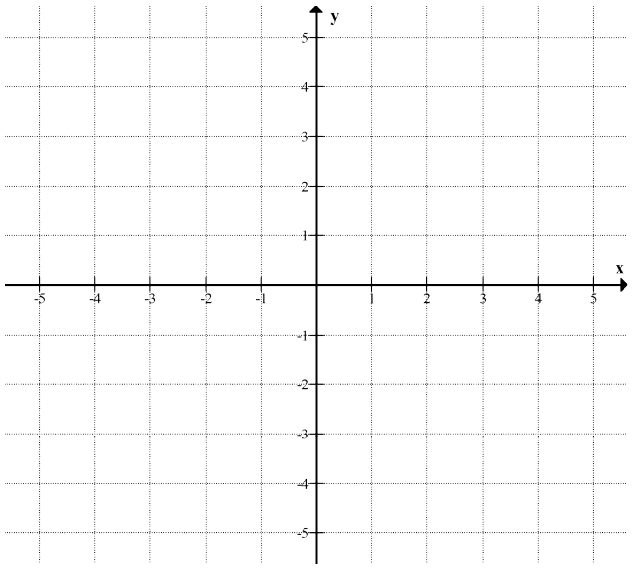
$y = \frac{1}{2}x + 1$ $y = -3x + 2$



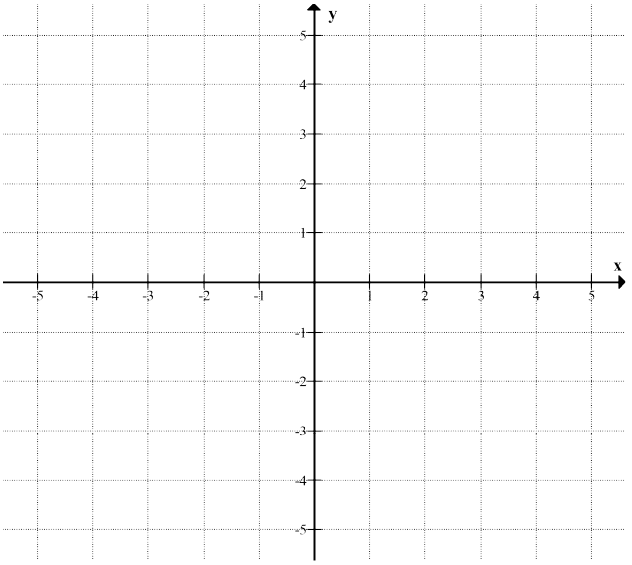
M10 - 9.1 - Substitution HW

Solve by Substitution

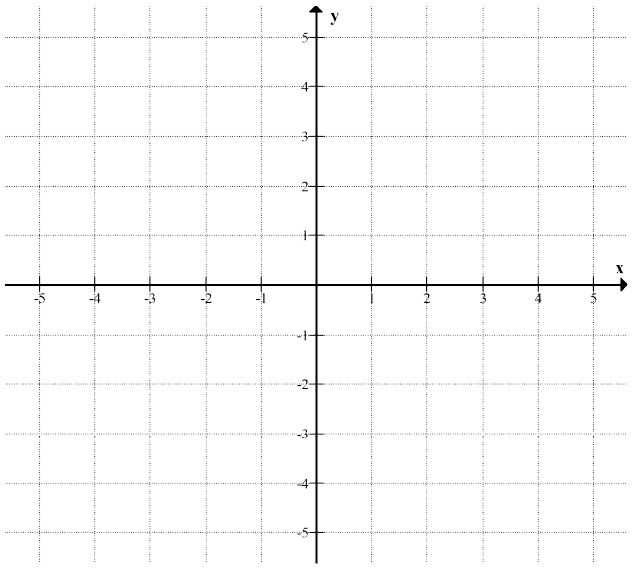
$y = x + 2$ $y = 2x$



$y = -x + 2$ $y = 3x - 2$



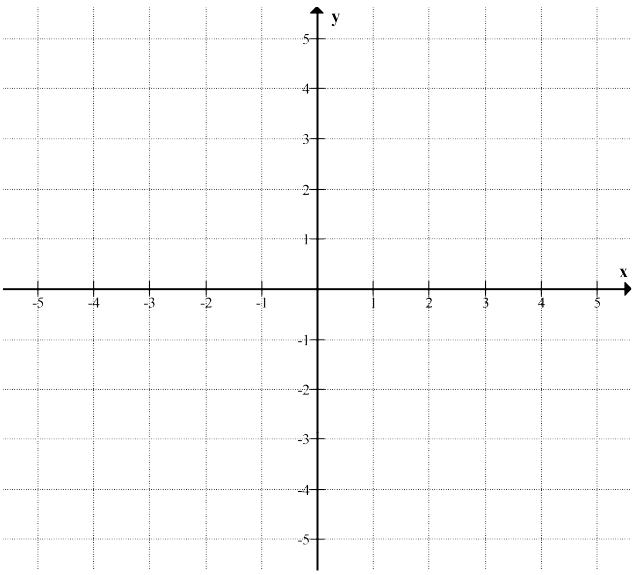
$y = -2x + 3$ $y = x - 3$



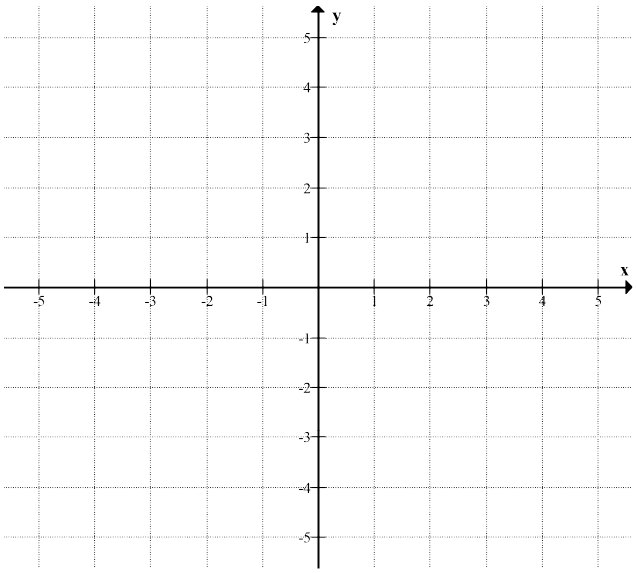
M10 - 9.1 - Substitution HW

Solve by Substitution

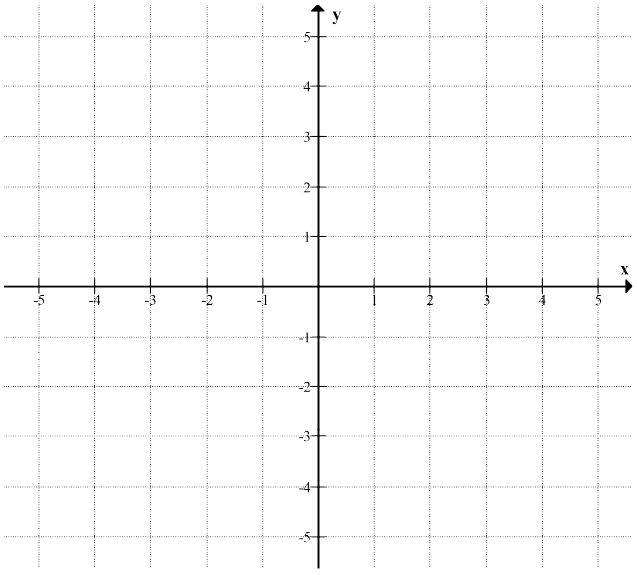
$y = x + 2$ $x + y = 4$



$x = y - 1$ $y - 2x = 4$



$y = 2x + 1$ $x - y = -2$

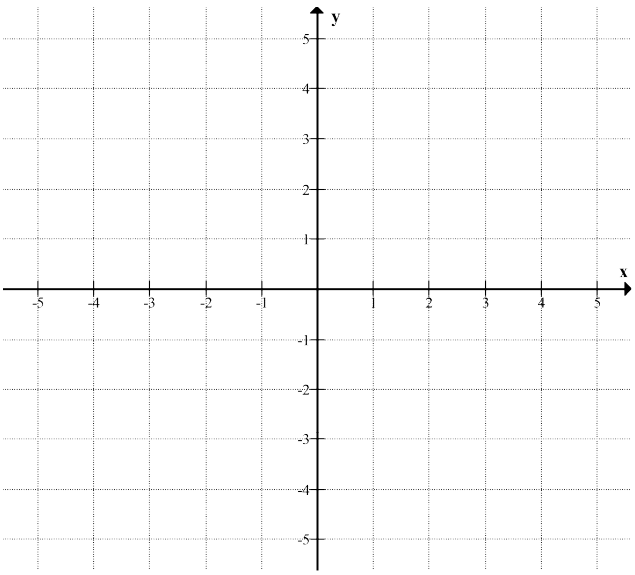


M10 - 9.2 - Isolate Substitution HW

Solve by Substitution

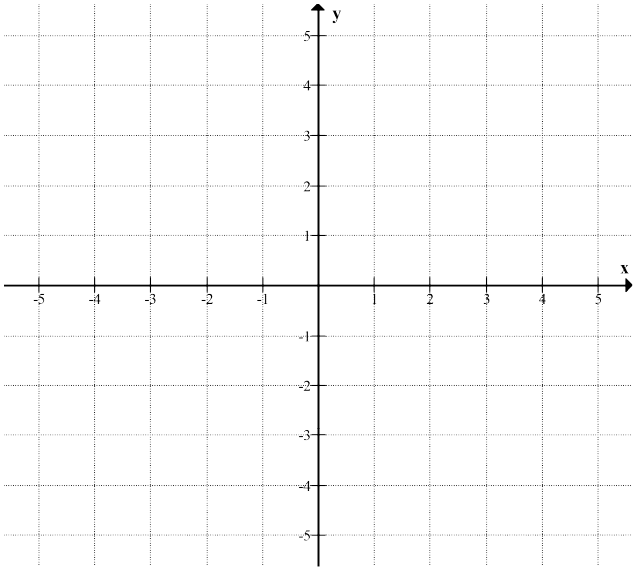
$x + y = 2$

$y - x = 4$



$2x + y = 3$

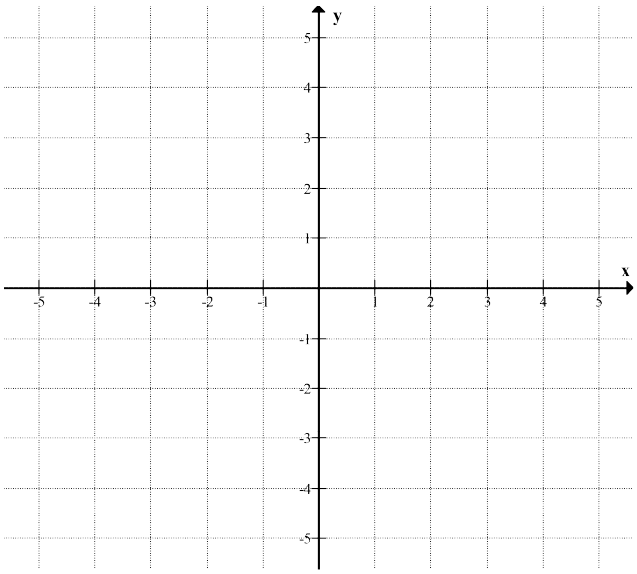
$2y + 10 = 4x$



$4x + 2y = 6$

$-8x = 4y - 12$

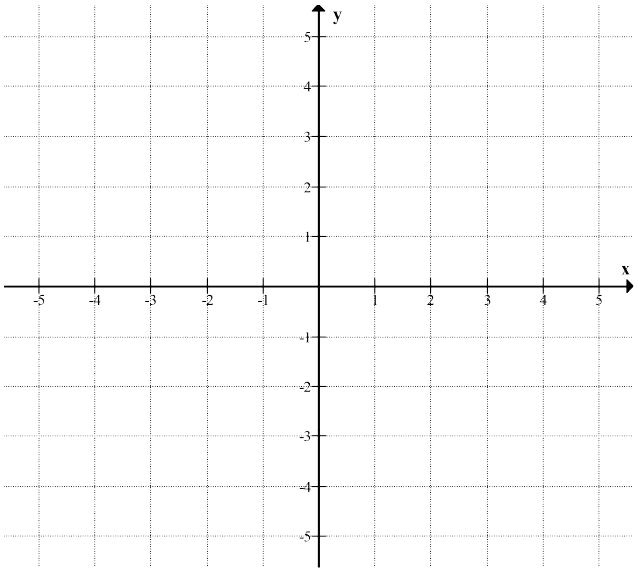
-



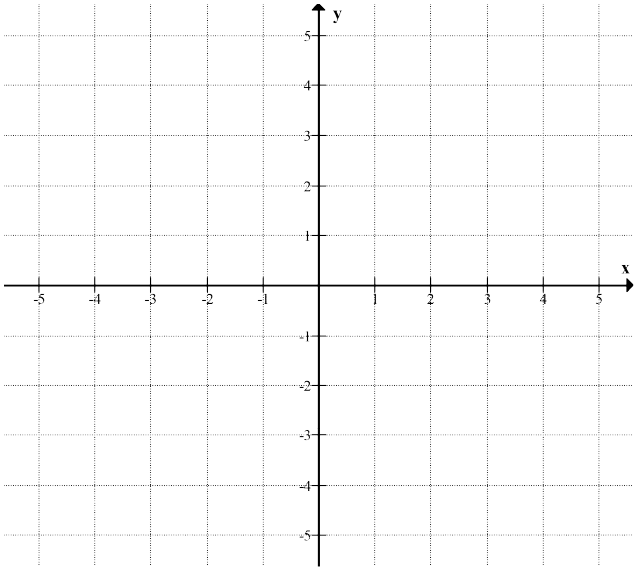
M10 - 9.3 - Elimination HW

Solve by Elimination

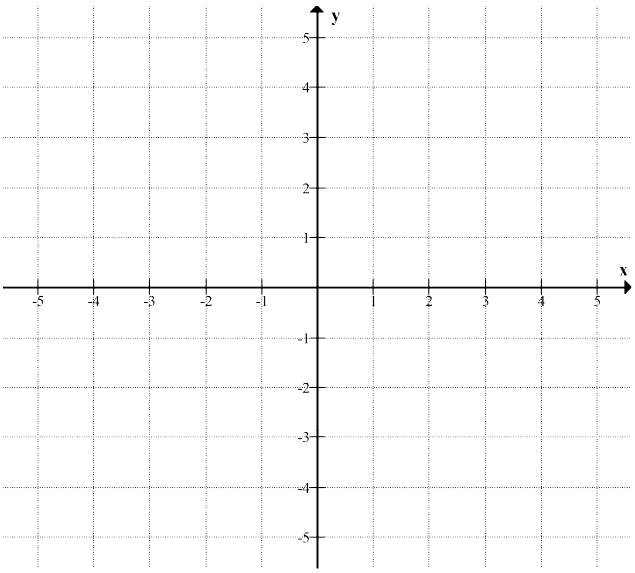
$y + 4x = 0$ $y - x = 5$



$2y = 2x + 4$ $y = -2x + 5$



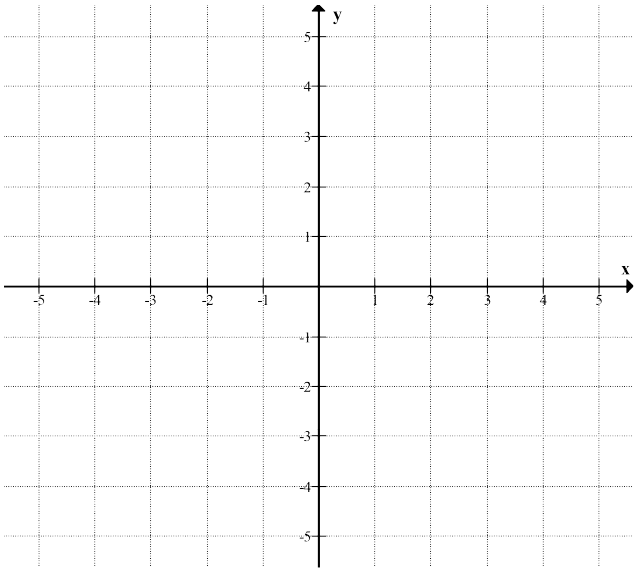
$-x - y = 4$ $-x + y = -4$



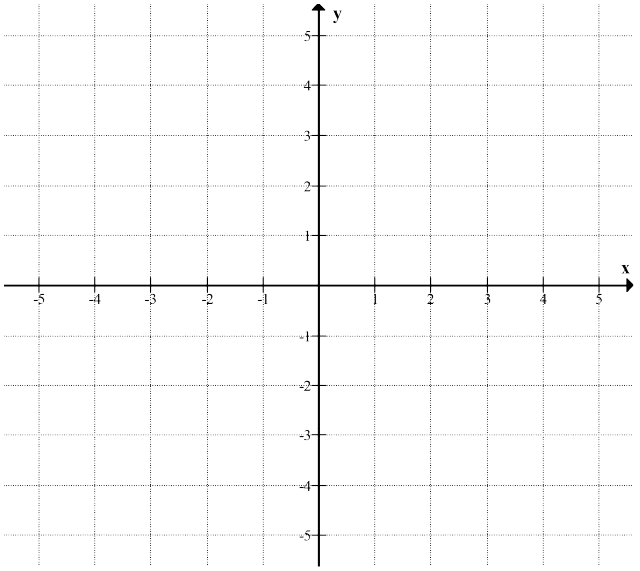
M10 - 9.4 - Line Up Elimination HW

Solve by Elimination

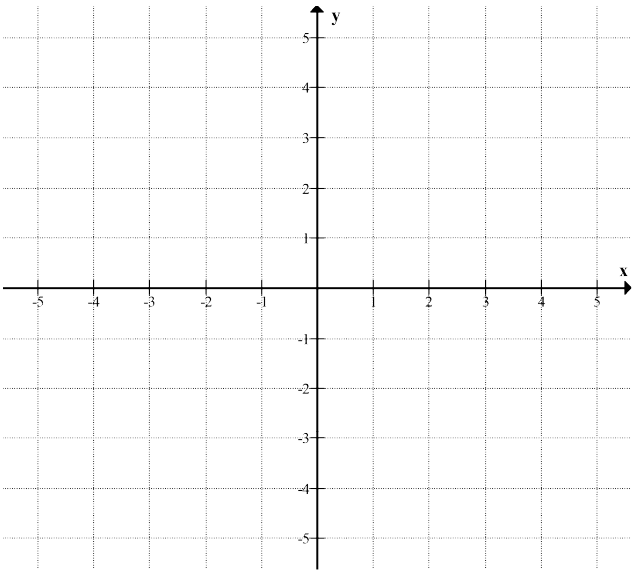
$-2x + 2y = 6$ $y = -2x + 6$



$3y + 2x = -12$ $3y + 3 = x$



$-2x + 5 = y$ $-2y = -2x - 4$

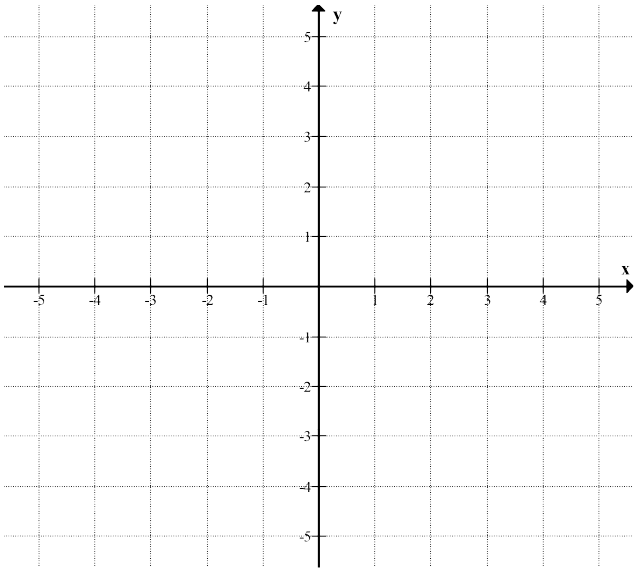


M10 - 9.5 - Multiply Elimination HW

Solve by Elimination

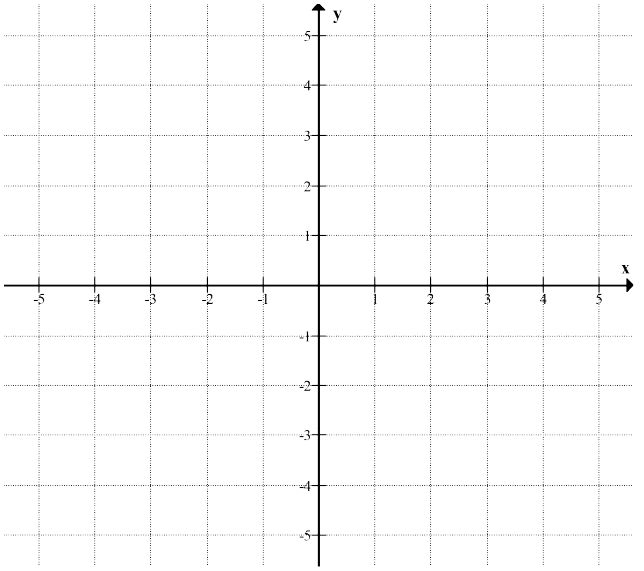
$y = -3x + 3$

$2y = x - 8$



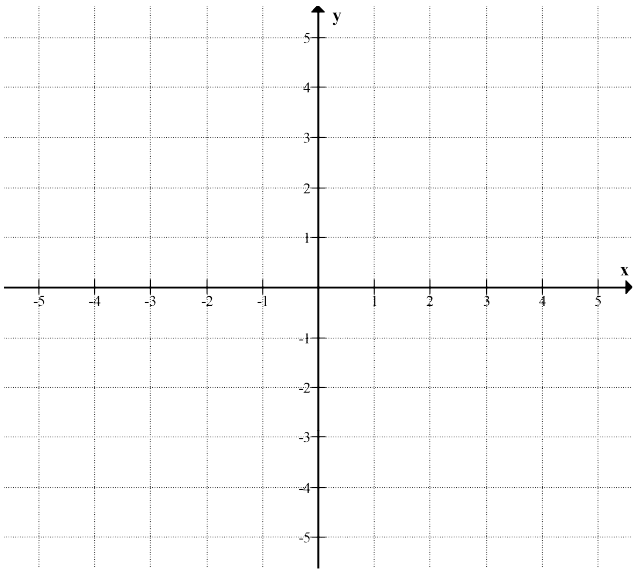
$3y = -2x - 12$

$9y = 3x - 9$



$2y = 3x + 4$

$3y = -4x + 6$

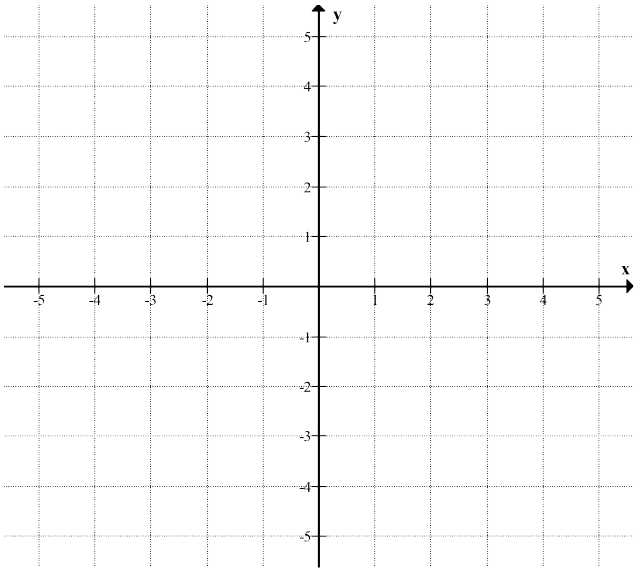


M10 - 9.5 - Frac Elimination HW

Solve by Elimination

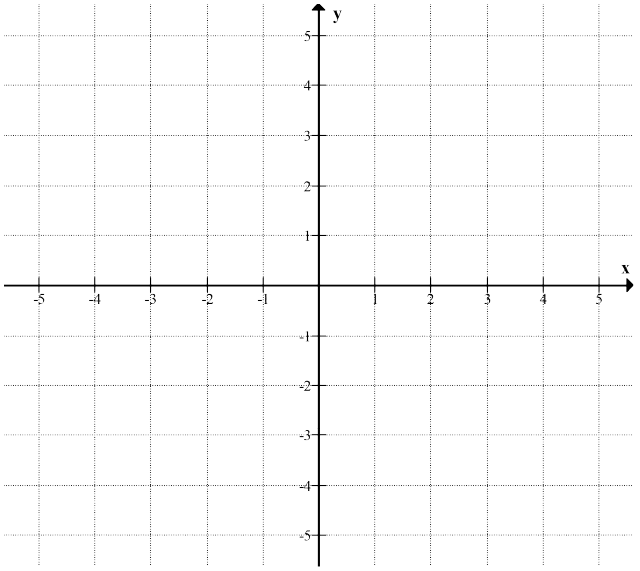
$y = 3x - 2$

$\frac{y}{2} = \frac{3x}{2} - 1$



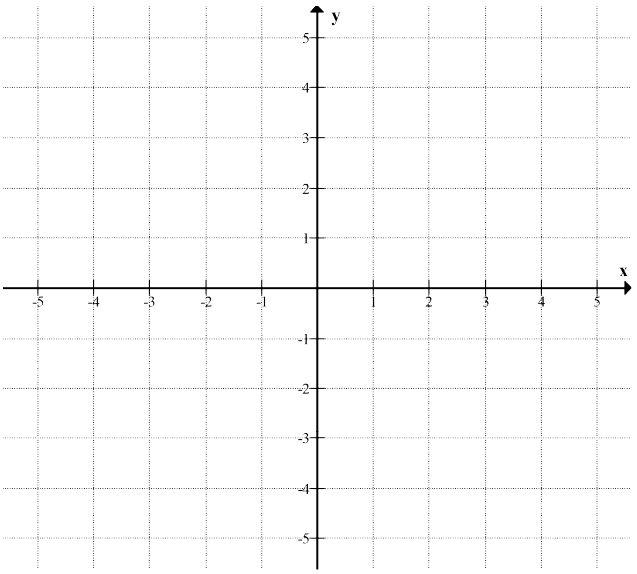
$y = -\frac{2}{3}x - 4$

$y = \frac{1}{3}x - 1$



$\frac{y}{2} = \frac{1}{3}x + 1$

$y = x + 1$



M10 - 9.5 - Sub/Elim Rev HW

Solve by Substitution

$y = x + 2$
$y = 2x$

$y = 3x - 2$
$y = 3x - 2$

$y = -2x + 3$
$y = x - 3$

$y = x + 2$
$x + y = 4$

$x = y - 1$
$y - 2x = 4$

$y = 2x + 1$
$x - y = -2$

$x + y = 2$
$y - x = 4$

$2x + y = 3$
$2y + 10 = 4x$

$4x + 2y = 6$
$-8x = -4y - 10$

Solve by Elimination

$y + 4x = 0$
$y - x = 5$

$2y = 2x + 4$
$y = -2x + 5$

$-x - y = 4$
$-x + y = -4$

$-2x + 2y = 6$
$y = -2x + 6$

$3y + 2x = -12$
$3y + 3 = x$

$-2x + 4 = y$
$-2y = -2x - 4$

$y = -3x + 3$
$2y = x - 8$

$3y = -2x - 12$
$9y = 3x - 9$

$2y = 3x + 4$
$3y = -4x + 6$

$y = 3x - 2$
$\frac{y}{2} = \frac{3x}{2} - 1$

$y = -\frac{2}{3}x - 4$
$y = \frac{1}{3}x - 1$

$\frac{y}{2} = \frac{1}{3}x + 1$
$y = x + 1$

M10 - 9.6 - Let Statements Systems of Equations Notes

Write Let Statements and an Expression or Equation in either form. $ax + by = c$ $y = mx + b$

A person has some Loonies.

A person has some Nickels and Dimes.

A person has 24 Total coins in Dimes and Quarters.

A person has 16 Total coins in Nickels and Pennies.

A person has some Nickels. How much do they have in Nickels?

A person has Quarters and Dimes. How much money do they have?

A person has Dimes and Quarters worth $4.50.

A person has loonies and toonies worth seven dollars.

Ben has read 40 books and reads three books per year.

A person deposits two dollars per day into a bank account with $100 in the account to start.

The Cost of a truck is $250 per month plus $0.2 per kilometer.

An Bird swops down at 5 meters per second from a height of 2000 meters.

M10 - 9.6 - Coin Solve Systems of Equations Notes

A person has 16 total coins of Dimes and Loonies worth $8.80, How many Dimes and Loonies do they have?

A person has 22 total coins of Quarters and Dimes worth $5.20, How many Quarters and Dimes do they have?

A person spends $17.40 on 12 kg of bulk Candy at $1.20/kg and $1.80/kg? How much did they spend on each?

M10 - 9.6 - Investment/Weights WS

Mark invests a total of $2800 in a 12% bond and an 8% bond earning $288. How much did he invest in each?

Marie invests a total of $3400 in a 9% bond and an 11% bond earning $366. How much did she invest in each?

M10 - 9.6 - Wind and Current WS

A boat took 3 hrs to travel 24 km with a current and 5 hrs to return. What is the speed of the boat in still water?

A plane travels 780 km in 4 hours with a headwind. It takes 3 hours to return with a tailwind. What is the wind speed?

M10 - 9.6 - y=mx+b Equations

Joe has 2 dollars in the bank and deposits 3 dollars per day. Mary has 12 dollars in the bank and spends 2 dollars per day. Find the intersection and state its meaning.

One cell phone company charges $40 per month and five dollars a gigabyte of data. Another cell phone company charges $20 per month and $10 a gigabyte of data. Find the intersection and students meaning.

Joe has 1 dollars in the bank and deposits 2 dollars per day. Mary has 4 dollars in the bank and spends 1 dollars per day. Find the intersection and state its meaning.

One car company sells a car for $50,000 and depreciate at five dollars per year. Another car company sells cars for $80,000 and depreciate that $10,000 per year. Find the intersection and stayed its meaning.

The End