

C11 - 5.0 - Square/Cube Radicals Equations HW

Solve for x ,

$$x^2 = 4$$

$$x^2 = 9$$

$$x^2 = -1$$

$$x^2 = 25$$

$$x^2 = 0$$

$$x^2 = -9$$

$$x^3 = 27$$

$$x^3 = 8$$

$$x^3 = 64$$

$$x^3 = -8$$

$$x^3 = -27$$

$$x^3 = -64$$

$$x^4 = 16$$

$$x^5 = 243$$

$$x^7 = 128$$

$$x^4 = -16$$

$$x^5 = -243$$

$$x^7 = -128$$

$$x^2 = 3$$

$$x^3 = 7$$

$$x^4 = -5$$

C11 - 5.0 - Simplify Radicals Variables HW

Simplify. Variables can be either positive or negative.

$$\sqrt{4}$$

$$\sqrt{2^2}$$

$$\sqrt{x^2}$$

$$\sqrt{16x^2}$$

$$\sqrt{9x^2}$$

$$\sqrt{x^6}$$

$$\sqrt{x^{10}}$$

$$\sqrt{4x^4}$$

Simplify. Variables are positive

$$\sqrt{x^2y^2}$$

$$\sqrt{x^3}$$

$$\sqrt{x^5}$$

$$\sqrt{8x^2y^3}$$

$$\sqrt[3]{27}$$

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

$$\sqrt[3]{-27x^3}$$

$$\sqrt[3]{-8x^3}$$

$$\sqrt[3]{x^6}$$

$$\sqrt[3]{x^5}$$

$$\sqrt[3]{-x^7}$$

$$\sqrt[5]{x^6y^3}$$

C11 - 5.0 - Simplify Radicals Factoring Notes

Simplify. Variables are positive. Possibly Factor.

$$\sqrt{(x-2)^2}$$

$$\sqrt{(x+5)^2}$$

$$\sqrt{(x-.01)^2}$$

$$\sqrt[3]{(x-3)^3}$$

$$\sqrt[7]{(x-3)^7}$$

$$\sqrt[99]{(x-3)^{99}}$$

$$\sqrt{(x+3)(x+3)}$$

$$\sqrt{x^2+6x+9}$$

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

$$\sqrt{x^4+2x^2+1}$$

$$\sqrt{(x-1)(x^2-1)}$$

$$\sqrt{(Only\ This!)^2}$$

C11 - 5.0 - Mixed Radicals HW

Write as Mixed Radicals

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

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

$$3\sqrt[2]{45} =$$

$$\frac{1}{5}\sqrt[2]{50} =$$

$$\frac{1}{8}\sqrt[2]{20x^2} =$$

$$\frac{\sqrt[2]{63}}{3}$$

$$\frac{3}{4}\sqrt[2]{24x^5} =$$

$$\frac{2}{5}\sqrt[2]{54} =$$

$$\frac{3}{5}\sqrt[2]{40} =$$

$$3\sqrt[3]{24} =$$

$$\frac{1}{9}\sqrt[3]{54x^3} =$$

$$2\sqrt[3]{135} =$$

$$\frac{3}{5}\sqrt[3]{40} =$$

$$\frac{2}{7}\sqrt[3]{189x^7} =$$

$$\frac{1}{2}\sqrt[3]{56} =$$

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

$$\frac{5}{6}\sqrt[3]{162} =$$

$$\frac{1}{4}\sqrt[3]{80} =$$

C11 - 5.0 - Entire Radicals HW

Write as Entire Radicals

$$2^2\sqrt{3} =$$

$$3^2\sqrt{2} =$$

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

$$4^2\sqrt{5} =$$

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

$$7^2\sqrt{2x}$$

$$4x^2\sqrt{7x} =$$

$$7^2\sqrt{6} =$$

$$13x^2\sqrt[3]{3x} =$$

$$2^2\sqrt{99} =$$

$$5^2\sqrt{1000} =$$

$$7^2\sqrt{4} =$$

$$2^3\sqrt{8} =$$

$$7^3\sqrt{6} =$$

$$4xy^3\sqrt{5xy} =$$

$$2^3\sqrt{48} =$$

$$3^3\sqrt{12} =$$

$$8^3\sqrt{8} =$$

C11 - 5.0 - Simplifying Radicals Decimals/Fractions HW

Simplify

$$-\sqrt{16}$$

$$-\sqrt{9}$$

$$\sqrt{\frac{1}{16}}$$

$$\sqrt{\frac{1}{9}}$$

$$\sqrt{-9}$$

$$-\sqrt{-9}$$

$$\sqrt{.01}$$

$$\sqrt{.0625}$$

$$-\sqrt[4]{81}$$

$$\sqrt[3]{-27}$$

$$\sqrt[5]{-32}$$

$$\sqrt[3]{-0.125}$$

C11 - 5.1 - Adding/Subtracting Radicals HW

Add or subtract the following radicals

$$2\sqrt[2]{3} + 1\sqrt[2]{3} =$$

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

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

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

$$6x\sqrt[2]{3} - 8x\sqrt[2]{3} =$$

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

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

$$5\sqrt[3]{7} + \sqrt[3]{7} =$$

$$4\sqrt[3]{5x} - 9\sqrt[3]{5x} =$$

Simplify and Add or subtract the following radicals

$$\sqrt[2]{12} + 2\sqrt[2]{3} =$$

$$2\sqrt[2]{12} + 1\sqrt[2]{75} =$$

$$2\sqrt[2]{18} - 4 + 5\sqrt[2]{50} =$$

$$-7\sqrt[2]{20} - 5\sqrt[2]{45} =$$

$$8\sqrt[2]{44} + 3 + 6\sqrt[2]{99} - 1 =$$

$$7\sqrt[2]{28} + 3\sqrt[2]{63} - 2 =$$

$$5 + 4\sqrt[2]{20} + 1 - 5\sqrt[2]{125} + 6 =$$

$$2\sqrt[2]{12} + 1\sqrt[2]{20} + 1 =$$

$$2\sqrt[2]{28} + 1\sqrt[2]{20} + 2 =$$

C11 - 5.2 - Multiplying Radicals HW

Multiply *the following radicals*

$$7\sqrt{3} \times 2\sqrt{5} =$$

$$2\sqrt{7} \times 3\sqrt{6} =$$

$$10\sqrt{5x} \times 3\sqrt{7} =$$

$$7x\sqrt{3} \times 2x\sqrt{5} =$$

$$10\sqrt{5x} \times 3\sqrt{7} =$$

$$x^3\sqrt{3x} \times x\sqrt{5x^5} =$$

$$3 \times \sqrt{5} =$$

$$\sqrt{5} \times 3 =$$

$$\sqrt{3} \times \sqrt{5} =$$

$$(\sqrt{5})^2 =$$

$$(-4\sqrt{2})^2 =$$

$$(-4\sqrt{(-2)^2})^2 =$$

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

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

$$(-3\sqrt{x+2})^2 =$$

$$7\sqrt[3]{3} \times 2\sqrt[3]{5} =$$

$$7x\sqrt[3]{3} \times 2x\sqrt[3]{5} =$$

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

$$(2\sqrt[3]{x-1})^3 =$$

$$7\sqrt{3} \times 2\sqrt[3]{5} =$$

$$(3\sqrt[3]{2})^2 =$$

C11 - 5.2 - Multiplying Simplifying Radicals HW

Multiply *the following radicals*

$$7\sqrt{3} \times 2\sqrt{6} =$$

$$2\sqrt{8} \times 3\sqrt{6} =$$

$$10\sqrt{5x} \times 3\sqrt{7x} =$$

$$7x\sqrt{3} \times 2x\sqrt{9} =$$

$$2\sqrt{12x^2} \times 3\sqrt{6x} =$$

$$10\sqrt{14x} \times 3\sqrt{7} =$$

$$(\sqrt{5x})^2 =$$

$$(3x\sqrt{2x})^2 =$$

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

$$7\sqrt[3]{3} \times 2\sqrt[3]{27} =$$

$$7x\sqrt[3]{15} \times 2x\sqrt[3]{5} =$$

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

C11 - 5.2 - Distribute/FOIL Radicals HW

Add or subtract the following radicals

$$\sqrt{2}(\sqrt{5} + \sqrt{3}) =$$

$$2\sqrt{7}(3\sqrt{6} + \sqrt{2}) =$$

$$5(2\sqrt{7} + 4) =$$

$$\sqrt{7}(2 + \sqrt{3x}) =$$

$$\sqrt[3]{7}(2x^2 + \sqrt[3]{3}) =$$

$$\sqrt{5}(6 + \sqrt{5x}) =$$

$$(\sqrt{2} + \sqrt{5})(\sqrt{2} - \sqrt{5})$$

$$(\sqrt{7} + \sqrt{5})(\sqrt{7} - \sqrt{5})$$

$$(\sqrt{2x} + \sqrt{5})(\sqrt{2x} + \sqrt{5})$$

$$(\sqrt{7} + \sqrt{5x})^2$$

$$(\sqrt{2} + \sqrt{7})(\sqrt{3} + \sqrt{5})$$

$$(\sqrt{2} + \sqrt{3})(\sqrt{6} + \sqrt{2})$$

$$(\sqrt{x+2} + 1)(\sqrt{x+2} - 1)$$

$$(\sqrt{x-3} + 1)(\sqrt{x-3} + 4)$$

C11 - 5.2 - Dividing Radicals HW

Simplify or Divide the following radicals

$$\frac{\sqrt{10}}{\sqrt{5}} =$$

$$\frac{\sqrt{12}}{\sqrt{4}} =$$

$$\frac{\sqrt{1}}{\sqrt{4}} =$$

$$\frac{4\sqrt{6x^2}}{2\sqrt{3x}} =$$

$$\frac{8\sqrt{6x}}{4\sqrt{2x}} =$$

$$\frac{8\sqrt{10}}{3\sqrt{-2}} =$$

$$\frac{2\sqrt{3x}}{4\sqrt{6}} =$$

$$\frac{6x\sqrt{2}}{12x^2\sqrt{6}} =$$

$$\frac{3x^2\sqrt{5}}{7x\sqrt{6}} =$$

$$\frac{8\sqrt{18}}{4\sqrt{2}} =$$

$$\frac{6\sqrt{32}}{3\sqrt{2}} =$$

$$\frac{1\sqrt{45}}{6\sqrt{5}} =$$

$$\frac{6\sqrt{24}}{3\sqrt{3}} =$$

$$\frac{9\sqrt{7}}{\sqrt{63}} =$$

$$\frac{5\sqrt{12}}{6\sqrt{54}} =$$

C11 - 5.3 - Rationalize the denominator HW

Rationalize the Denominator by multiplying the top and the bottom by the root on the bottom

$$\frac{1}{\sqrt{3}}$$

$$\frac{1}{\sqrt{2}}$$

$$\frac{1}{\sqrt{5}}$$

$$\frac{2}{\sqrt{2}}$$

$$\frac{6}{\sqrt{3}}$$

$$\frac{2}{\sqrt{5}}$$

$$\frac{1}{2\sqrt{3}}$$

$$\frac{2}{2\sqrt{2}}$$

$$\frac{12}{5\sqrt{6}}$$

$$\frac{3}{\sqrt{3} + 1}$$

$$\frac{7}{\sqrt{6} + 1}$$

$$\frac{25}{\sqrt{6} + 1}$$

$$\frac{7}{\sqrt{6} + \sqrt{3}}$$

$$\frac{2 + \sqrt{3}}{\sqrt{6} + 1}$$

$$\frac{1}{\sqrt{2} + 1}$$

C11 - 5.4 - Prep Radical Equations HW

Square the following

$$\sqrt{x}$$

$$\sqrt{-x}$$

$$x + 2$$

$$x + 1$$

$$3\sqrt{x}$$

$$-\sqrt{x}$$

$$\frac{\sqrt{x}}{2}$$

$$\frac{\sqrt{2x}}{5}$$

$$\sqrt{x-1}$$

$$\sqrt{x+2}$$

$$2\sqrt{x+2}$$

$$-2\sqrt{x+2}$$

$$\sqrt{x} + \sqrt{5}$$

$$\sqrt{2x} + 7$$

$$\sqrt{x} - 2$$

$$3\sqrt{x} - 4$$

$$2 + \sqrt{x-2}$$

$$8 + \sqrt{x-7}$$

$$\sqrt{x+2} + \sqrt{x-1}$$

$$\sqrt{x-1} + \sqrt{x-1}$$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly do algebra first.

$$\sqrt{x} = 5$$

$$\sqrt{x} = 6$$

$$\sqrt{x} - 2 = 6$$

$$\sqrt{x} + 8 = 6$$

$$\sqrt{x} = -4$$

$$\sqrt{x+2} = 5$$

$$\sqrt{x-1} = -5$$

$$\sqrt{x+3} - 2 = 5$$

$$\sqrt{x} - 8 = -6$$

$$\sqrt{2x+3} = 5$$

$$\sqrt{3x-5} = 4$$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly do algebra first.

$$\sqrt{2x} = \sqrt{x+4}$$

$$\sqrt{x} = \sqrt{6-x}$$

$$2\sqrt{2x} = \sqrt{2x+3}$$

$$\sqrt{2x-5} = \sqrt{x-1}$$

$$\sqrt{x+5} = \sqrt{2x+4}$$

$$\sqrt{4x-6} = \sqrt{2x+4}$$

$$2\sqrt{x+4} = 4$$

$$3\sqrt{x+2} - 3 = 9$$

$$-5\sqrt{x-1} = 10$$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly do algebra first.

$$2\sqrt{x-2} = \sqrt{x+1}$$

$$2\sqrt{x-5} = \sqrt{x+7}$$

$$2\sqrt{7x-6} = 3\sqrt{2x-8}$$

$$x = \sqrt{x+2}$$

$$x = \sqrt{2x+3}$$

$$x = \sqrt{4x-5}$$

$$2x = \sqrt{7x-3}$$

$$2x = \sqrt{-2x+1}$$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly do algebra first.

$$\sqrt{x+3} = x+1$$

$$\sqrt{2x+1} = 7-x$$

$$\sqrt{x+3} - 1 = x$$

$$\sqrt{x+4} + 2 = x$$

C11 - 5.4 - Radical Equations HW

Solve the following equations by squaring both sides, possibly twice. Isolate a root 1st.

$$\sqrt{x-3} = \sqrt{x+2} - 1$$

$$\sqrt{x+11} - \sqrt{x-4} = 3$$

$$\sqrt{x+35} = \sqrt{x+15} + \sqrt{x+3}$$

$$6=4+2$$

$$x = 1$$

C11 - 5.4 - Restrictions HW

Find the Restriction, by setting underneath the root ≥ 0 and solve

$$\sqrt{x-1}$$

$$\sqrt{x+2}$$

$$\sqrt{2x-3}$$

$$\sqrt{4x+1}$$

$$\sqrt{-x-1}$$

$$\sqrt{3-x}$$

$$\sqrt{-2x-3}$$

$$\sqrt{1-4x}$$

$$\sqrt{x^2-1}$$

$$\sqrt{4-x^2}$$

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

$$\sqrt{x^2+4}$$

$$\sqrt{(x+1)(x-1)}$$

$$\sqrt{(x+2)(x-3)}$$

$$\sqrt{x^2+5x-6}$$

$$\sqrt{x^2-2x-3}$$