

M9 - Methods

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| Numbers Real Rational Integers Whole Natural Irrational | Symmetry/Rotations/Dot Diagrams/SA/V Horizontal Line Symmetry Vertical Flip Vertical Line Symmetry Horizontal flip Oblique-Oblique |
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Exponents

If you don't see an exponent, give it 1!

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| <p>Laws</p> <p>Add Exponents $2^3 \times 2^2 = 2^{3+2}$</p> <p>Subtract Exponents $\frac{3^5}{3^2} = 3^{5-2}$</p> <p>Multiply Exponents $(2^2)^3 = 2^{2 \times 3}$</p> <p>Negative Exponents $2^{-3} = \frac{1}{2^3}$ $2^3 = \frac{1}{2^{-3}}$</p> <p>Negative Coefficients $-2^2 = -4$ $(-2)^2 = +4$ $(-2)^3 = -8$</p> <p>Fractional Exponents $5^{\frac{3}{2}} = \sqrt[2]{5^3}$</p> <p>Change of Base $8 = 2^3$</p> | <p>$x^m \times x^n = x^{m+n}$</p> <p>$\frac{x^m}{x^n} = x^{m-n}$</p> <p>$(x^m)^n = x^{m \times n}$</p> <p>$x^{-a} = \frac{1}{x^a}$, $\frac{1}{x^{-a}} = x^a$</p> <p>$- \#^{\#} = - \#$</p> <p>$(-2)^{\text{even}} = +ve$ $(-4)^{\text{odd}} = -ve$</p> <p>$x^{\frac{m}{n}} = \sqrt[n]{x^m}$</p> <p>$x^a = y^b$</p> | <p>Add Subtract Multiply Negatives Coefficients (Brackets) Fractions/Roots Change of Base</p> |
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Polynomials: Whole Number Exponents!
(Mono, Bi, Tri, Quad/Tetra, ...)

Combine Like Terms: (Adding and Subtracting)
 Add/Subtract Coefficients

$5a - 2a = 3a$
 $1x^2 + 1x^2 = 2x^2$
 1 Pen + 1 Pen = 2 Pens!

Like Term:
 Same Letter(s)
 Same Exponent(s)

Coefficient (Highest)
 Degree* ← Leading Term
 Variable

SIGNS
NUMBERS
LETTERS

Multiply/Divide:
 Multiply coefficients, add exponents.

$a^1 \times a^1 = a^2$
 $2a \times 3a = 6a^2$
 $3x^2 \times 5x^3 = 15x^5$

Constant
 $5 = 5x^0$

Divide coefficients, subtract exponents.

$20x^3 \div 5x^2 = 4x$
 $30a^4 \div 6a^2 = 5a^2$

$(x+2)(x+3) =$

Distribution/FOIL
 Tiles

Not Polynomial: $\sqrt{x}, \frac{1}{x}, x^{-2}, 2^x$

M8 Methods
 %/Fractions/Decimals
 Pythag/Geometry
 Bedmas/# Forms
 Substitution, let m = #
 Equations/Word Problems
 Algebra/Fractions/LCD
 TOV/Graphing
 Distribution/FOIL
 Probability

Inequalities
 Signs
 Laws
 Negatives
 Number Line
 Equations

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| <p>Parallel Lines: Angles</p> <p>\angle's On Line = 180°</p> <p>Opposite \angle's = [X]</p> <p>Alt-Int \angle's = [Z]</p> <p>Corr \angle's = [C]</p> <p>Co-Int \angle's sum = 180°</p> <p>Rotate the page</p> <p>Tick Equal Sides/Angles </p> <p>Arrow Parallel Lines </p> <p>Extend the lines</p> | <p>Circle Rules:</p> <p>Shade the Cord/Arc</p> <p>Use Hands</p> <p>Draw a radius</p> <p>Inscribed/Central \angle's = $2I\angle$'s</p> <p>Opp \angle's Cyclic Quads = 180°</p> <p>Semi-Circles</p> <p>Perpendicular Bisector</p> <p>Tangents/Ext Points</p> <p>Polygons Int/Ext \angle's (Triangle Method)</p> | <p>Similar triangles</p> <p>AAA</p> <p>Congruent (Equal) Triangles:</p> <p>SSS, SAS, ASA, AAS, HL</p> |
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