Math Cheat Sheet

Work from the inside out

Group, then square	$5 + 2(4 - 1)^2 = 5 + 2(9)$
Multiply, then add	$5 + 18 = 23$
Same priority	$24 \div 6 \times 2 = 4 \times 2 = 8$

Work left to right within multiplication and division, then within addition and subtraction.

Read the negative sign

Square a negative base	$(-5)^2 = 25$
Negate a square	$-5^2 = -25$
Subtract a negative	$7 - (-2) = 7 + 2 = 9$

Parentheses tell you when the minus sign belongs to the base.

Make the pieces the same size

Rename in twelfths	$2/3 = 8/12;\ 1/4 = 3/12$
Add the counts	$8/12 + 3/12 = 11/12$
Multiply and cancel	$(2/3)(9/10) = 3/5$

Use a common denominator for sums and differences. For products, cancel common factors.

Find the sale price

Convert the discount	$15\% = 0.15$
Find the amount off	$\$60 \times 0.15 = \$9$
Subtract from the original	$\$60 - \$9 = \$51$

Check: a 15% discount means paying 85% of the original price.

Distribute, then collect

Multiply both terms	$3(2x - 5) = 6x - 15$
Collect like terms	$6x - 15 - 4x = 2x - 15$
Check with x = 2	$2(2) - 15 = -11$

Combine like terms only when their variable parts and exponents match.

Solve and check an equation

Subtract 5 on both sides	$3x + 5 = 26 \Rightarrow 3x = 21$
Divide both sides by 3	$x = 7$
Substitute into the original	$3(7) + 5 = 26$

An equation is a claim about equality. Check that the same value makes both sides equal.

Flip the sign when needed

Divide both sides by −3	$-3x \le 12 \Rightarrow x \ge -4$
Check the endpoint	$-3(-4) = 12$
Check one allowed value	$x = 0$ gives $0 \le 12$

Reverse the comparison only when multiplying or dividing both sides by a negative number.

Example: Find the slope

Points (1, 2) and (5, 4)	$m = (4 - 2) / (5 - 1) = ½$

Read the vertical change first, then the horizontal change. Keep the point order the same.

