

Chapters 1–2

Date _____

RETRIEVE: EQUATIONS AND FORMULAS

1. Solve $3(x - 2) + 5 = 2x + 11$. Check your solution.
2. Solve $6 - 2(3x - 1) = 4x + 18$. Check your solution.
3. Classify each equation: one solution, no solution, or infinitely many. Explain. (a) $2(3x - 4) = 6x - 8$; (b) $2(3x - 4) = 6x + 1$.
4. The trapezoid formula is $A = \frac{1}{2}h(b_1 + b_2)$. Solve for b_2 . Find b_2 when $A = 54 \text{ cm}^2$, $h = 6 \text{ cm}$, and $b_1 = 7 \text{ cm}$.

CONNECT: GRAPHS AND SLOPES

5. Test whether $(-2, 7)$ satisfies $y = -3x + 1$. Find two other solution points and graph the line.
6. Find the slopes through (a) $(-4, 2), (2, 5)$; (b) $(-1, 6), (4, 6)$; (c) $(3, -2), (3, 5)$. Explain the last two results.
7. For $y + 4 = -\frac{3}{2}x$, identify slope and the y -intercept. State a perpendicular slope.
8. Find both intercepts of $3x + 2y = 12$ and graph it.

APPLY: EQUATIONS AND MODELS

9. Write the equation of the line through $(-2, 7)$ and $(4, -5)$. Give point-slope and slope-intercept forms.

10. Through $(2, -1)$, write lines parallel and perpendicular to $y = \frac{2}{3}x + 5$.

11. A tank starts with 180 liters and drains 12 liters per minute. Write a model, interpret both intercepts, and state a meaningful domain. When will 72 liters remain?

12. Plan A costs \$24 plus \$0.10 per message. Plan B costs \$9 plus \$0.15 per message. When do they cost the same? Which is cheaper for 100 messages? Show your reasoning.
