

CHAPTER 3 | CUMULATIVE REVIEW

Grades 8 Mathematics | Chapters 1–3

Name _____

Date _____

Show your reasoning. Use graph paper for coordinate graphs. No calculator.

1. Evaluate $-3^2 + 2(7 - 4)$ and $\frac{3}{4} - \frac{5}{6}$. Show the order of operations.

2. Solve $5(x - 2) = 3x + 8$. Check your answer.

3. Solve $A = \frac{1}{2}bh$ for h . State a necessary restriction on b .

4. Find the slope through $(-2, 5)$ and $(4, -1)$. Write the line in slope-intercept form.

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5. Graph $y = 2x - 3$ on graph paper. Identify and interpret both intercepts mathematically.

6. A tank starts with 120 liters and loses 8 liters per minute. Write $V(t)$, and give a meaningful time domain until it empties.

7. Solve and graph $7 - 3x \geq 16$.

8. Solve $4(x + 1) < 4x - 2$ and $2(x - 3) \leq 2x + 5$. Explain the special solutions.

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9. Solve $-4 < 2x - 6 \leq 8$. Graph it and state its interval.**10.** Solve $3x - 2 \leq -8$ or $2x + 1 > 9$. Graph it and state the union of intervals.**11.** Solve $2|x + 2| - 1 \leq 7$. Then solve $|x - 3| > 2$. Graph both sets.**12.** Plan A costs \$30 plus \$5 per visit; Plan B costs \$12 plus \$8 per visit. You have a \$70 budget. For which whole numbers of visits is A both cheaper than B and within budget? Write and solve the required inequalities.
