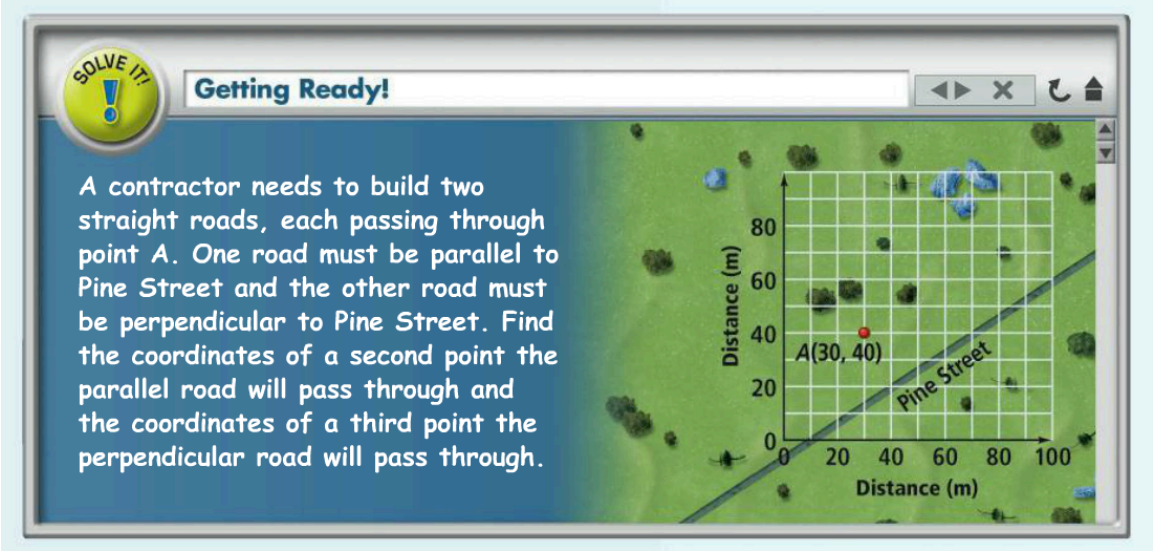
Algebra 2 Name _____

2-4 More About Linear Equations Date _____ **A#7**

Goal: To write an equation of a line given its slope and a point on the line.

Review

	Slope-intercept form	Standard Form
Form		
Characteristics		



	Point-Slope Form	Parallel Lines	Perpendicular
Form			
Characteristics			

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Note: "the equation" general means _____ form

Example 1: Write the equation of the line passing through $(-5,2)$ with a slope $\frac{3}{5}$.

Practice:

Write an equation of the line that passes through the given point and has the given slope.

7. $(2, 1), m = -2$ **8.** $(-4, 3), m = 5$ **9.** $(7, -5), m = 1$

Example 2: Write the equation of the line that passes through $(3,2)$ and $(5,8)$.

Practice

Write an equation of the line that passes through the given points.

13. $(-2, 1), (2, 4)$ **14.** $(-1, 3), (1, -1)$ **15.** $(-3, -1), (3, 2)$

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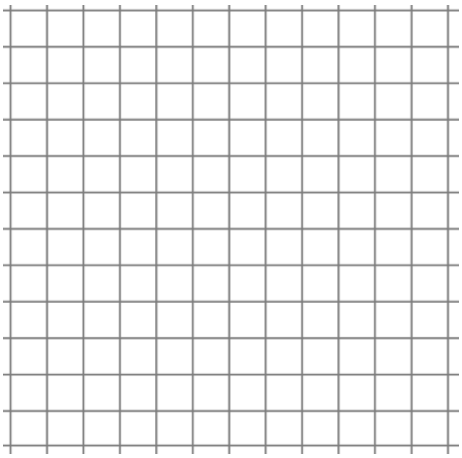
Example 3: What is the equation of the line $y = \frac{3}{4}x - 5$ in standard form?

Practice

16. $y = \frac{3}{5}x - 4$

17. $y = -\frac{4}{3}x + \frac{5}{6}$

Example 4: Graph $3x + 5y = 15$ using the intercepts.

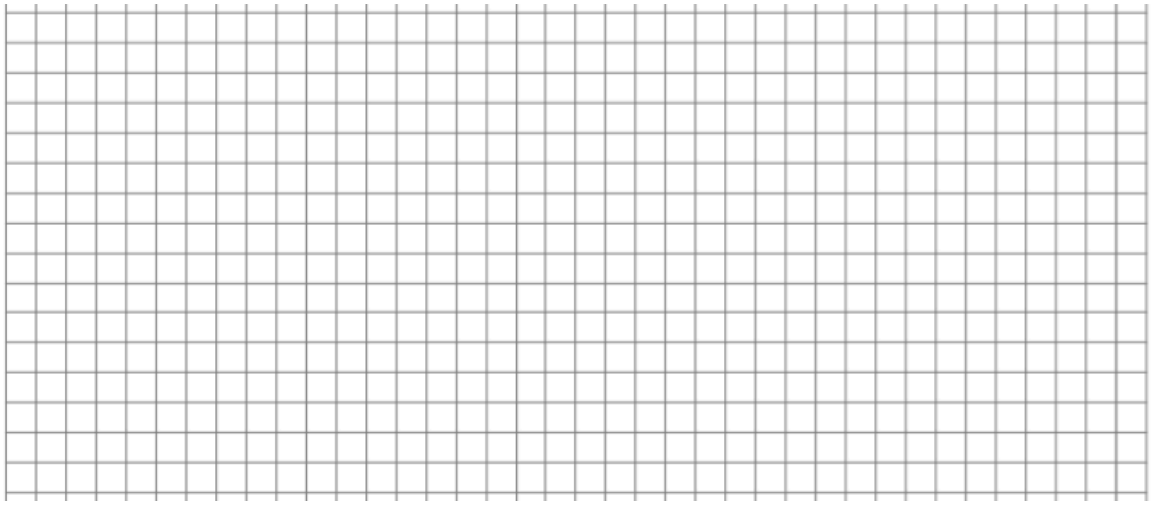


Practice

18. $4x + 5y = 20$

19. $-2x + y = 6$

20. $6x - 8y = 24$



Example 5: What is the equation of the line that is parallel to $y = 6x - 2$ and passes through $(1,-3)$? What is the equation of the line that is perpendicular to $y = 6x - 2$ and passes through $(1,-3)$?

Write an equation in slope-intercept form for each line.

17. the line parallel to $y = 4x - 1$ through (2, 8). Explain why the parallel lines cannot pass through $(2,7)$.

18. the line perpendicular to $y = -\frac{1}{3}x + 5$ through (6, 3)