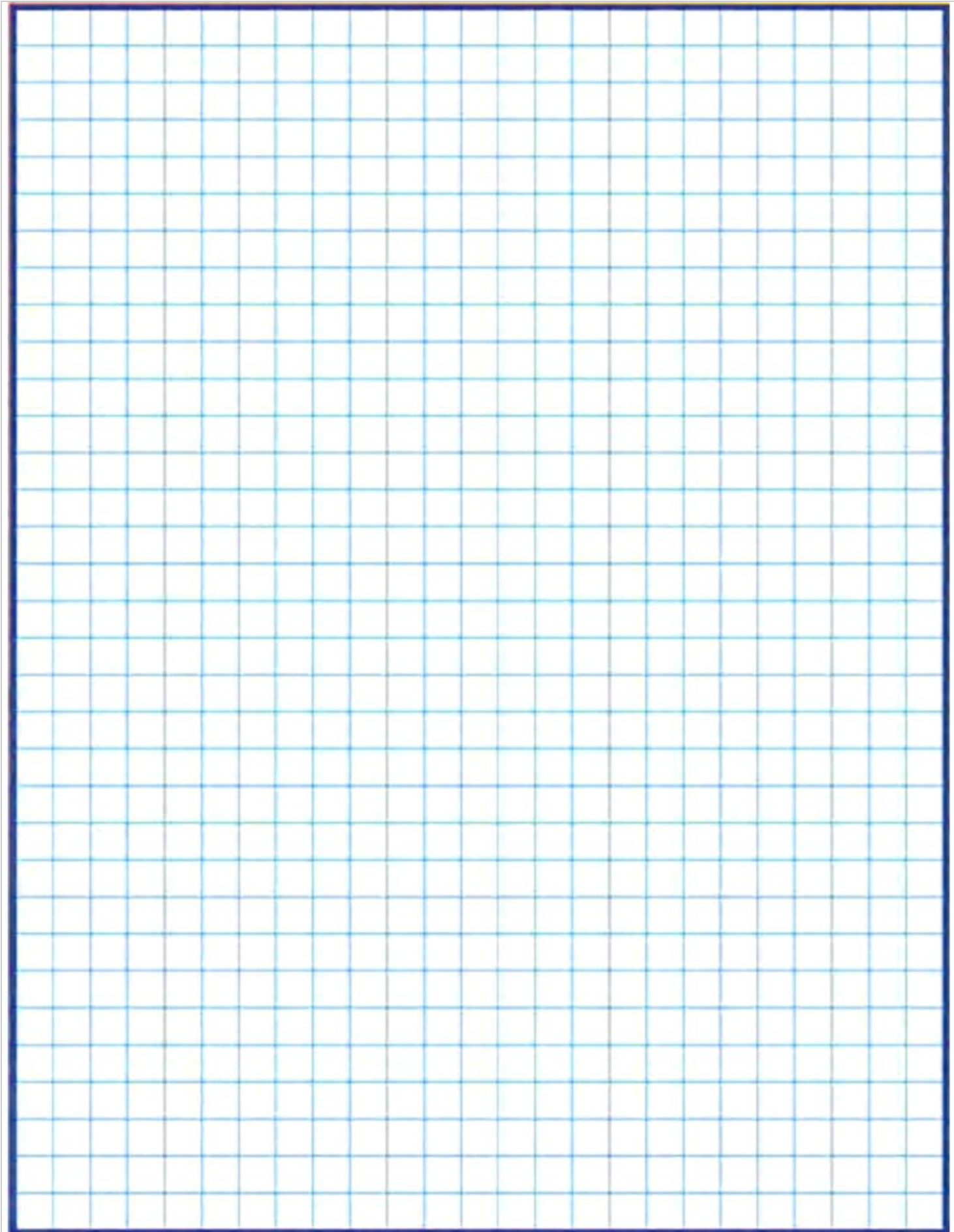


Activity: Point-Slope Form

1. Make a table of values to graph each line.
 - a. $y - 1 = -2(x - 2)$
 - b. $y - 2 = \frac{1}{3}(x - 1)$
 - c. $y - 5 = 3(x - 4)$
2. Find the slope of each line. Compare the slope of the line to the red number in the equation of the line. What do you notice?
3. Find the point on the graph of each line with an x -coordinate that is equal to the green number in the equation line. Then compare the y -coordinate of the point to the blue number in the equation of the line. What do you notice?
4. **Make a Conjecture** All three equations in Question 1 are in the form $y - y_1 = m(x - x_1)$. Make a conjecture about how you can use that form to help you graph an equation.



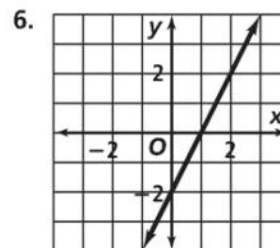
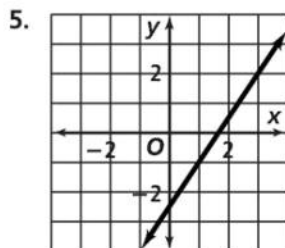
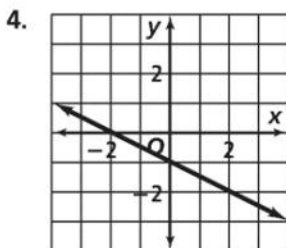
Name _____ Class _____ Date _____

Practice 2-2**Linear Equations****Find the slope of each line.**

1. $2x - 5y = 0$

2. $5x - y = -7$

3. $x - \frac{2}{3}y = \frac{1}{4}$



7. through $(4, -1)$ and $(-2, -3)$

8. through $(3, -5)$ and $(1, 2)$

Write in point-slope form the equation of the line through each pair of points.

9. $(0, 1)$ and $(3, 0)$

10. $\left(\frac{1}{2}, \frac{2}{3}\right)$ and $\left(-\frac{3}{2}, \frac{5}{3}\right)$

11. $(-3, -2)$ and $(1, 6)$

Graph each equation.

12. $4x + 3y = 12$

13. $\frac{x}{3} - \frac{y}{6} = 1$

14. $y = -\frac{3}{2}x + \frac{1}{2}$

Write in standard form an equation of the line with the given slope through the given point.

15. slope = -4 ; $(2, 2)$

16. slope = $\frac{2}{5}$; $(-1, 3)$

17. slope = 0 ; $(3, -4)$

Find the slope and the intercepts of each line.

18. $3x - 4y = 12$

19. $y = -2$

20. $f(x) = \frac{4}{5}x + 7$

21. $x = 5$

Write an equation for each line. Then graph the line.

22. through $(-1, 3)$ and parallel to $y = 2x + 1$

23. through $(2, 2)$ and perpendicular to $y = -\frac{3}{5}x + 2$

24. through $(-3, 4)$ and vertical

25. through $(4, 1)$ and horizontal

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