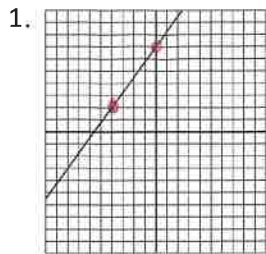


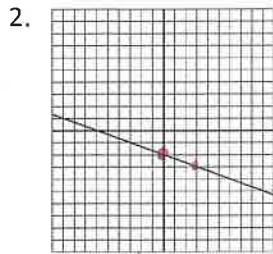
Worksheet 1.3B

KEY

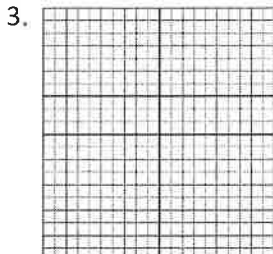
Write an equation in slope-intercept form for each graph.



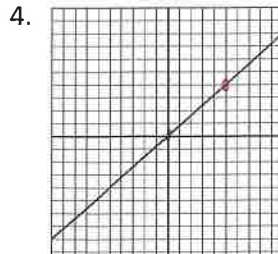
$$y = \frac{1}{2}x + 3$$



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



$$y = 3$$



$$y = \frac{4}{5}x$$

State the slope and y-intercept of the graph of each equation.

5. $y = 2x - 5$

$$m = 2, b = -5$$

6. $2y = 4x + 6$

$$y = 2x + 3$$

$$m = 2, b = 3$$

7. $3x + 2y = 10$

$$2y = -3x + 10$$

$$y = -\frac{3}{2}x + 5$$

$$m = -\frac{3}{2}, b = 5$$

8. $y = cx + d$

$$m = c, b = d$$

Write an equation in slope-intercept form that satisfies each condition.

9. $m = -7, b = -3$

$$y = -7x - 3$$

10. slope = 0.5, passes through (6,4)

$$y - 4 = 0.5(x - 6)$$

$$y - 4 = 0.5x - 3$$

$$y = 0.5x + 1$$

11. slope = 4, passes through origin

$$y - 0 = 4(x - 0)$$

$$y = 4x$$

12. passes through (-2,5) and (3,1)

$$\frac{5-1}{-2-3} = \frac{4}{-5}$$

$$y - 1 = -\frac{4}{5}(x - 3)$$

$$y - 1 = -\frac{4}{5}x + \frac{12}{5}$$

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

$$\frac{12}{5} + \frac{1}{1} \left(\frac{5}{5} \right)$$

13. $m = \frac{2}{3}$, passes through (4,6)

$$y - 6 = \frac{2}{3}(x - 4)$$

$$y - 6 = \frac{2}{3}x - \frac{8}{3}$$

$$y = \frac{2}{3}x + \frac{10}{3}$$

$$-\frac{8}{3} + \frac{6}{1} \left(\frac{18}{3} \right)$$

14. x-intercept = -4, y-intercept = 4

$$(-4, 0) \quad (0, 4)$$

$$\frac{0-4}{-4-0} = \frac{-4}{-4} = 1$$

$$y - 4 = 1(x - 0)$$

$$y = x + 4$$

15. $m = \frac{1}{3}$ and passes through (-2,0)

$$y - 0 = \frac{1}{3}(x + 2)$$

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

16. passes through (-2, -3) and (0,0)

$$\frac{-3-0}{-2-0} = \frac{-3}{-2} = \frac{3}{2}$$

$$y - 0 = \frac{3}{2}(x - 0)$$

$$y = \frac{3}{2}x$$

Use a graphing calculator to find an equation of the line.

17.

x	y
5	27
9	49
2	17
4	35
12	56
8	41
7	36

$$y = 3.7x + 12.4$$

18.

x	y
12	125
6	67
14	138
9	98
11	114
15	162
10	103

~~$y = 9.9x + 6.7$~~

$$y = 9.9x + 6.7$$

Solve each system of equations by using the SUBSTITUTION method.

19. $2x + 3y = 7$

$5x + y = -2$

$$\begin{aligned} 2x + 3y &= 7 \\ 2x + 3(-5x + 2) &= 7 \\ 2x - 15x - 6 &= 7 \\ -13x &= 13 \\ x &= -1 \end{aligned}$$

$$\begin{aligned} y &= -5x - 2 \\ y &= -5(-1) - 2 \\ y &= 5 - 2 \\ y &= 3 \end{aligned}$$

$(-1, 3)$

20. $3x - 2y = 16$

$x + 4y = -18$

$$\begin{aligned} 3x - 2y &= 16 \\ 3(-4y - 18) - 2y &= 16 \\ -12y - 54 - 2y &= 16 \\ -14y &= 70 \\ y &= -5 \end{aligned}$$

$$\begin{aligned} x &= -4y - 18 \\ x &= -4(-5) - 18 \\ x &= 2 \end{aligned}$$

$(2, -5)$

Solve each system of equations by using the ELIMINATION method.

21. $4x - 2y = 4$

$3x + 5y = 29$

$$\begin{aligned} -3(4x - 2y) &= -3(4) \\ -12x + 6y &= -12 \\ 12x + 20y &= 116 \\ \hline 26y &= 104 \\ y &= 4 \end{aligned}$$

$$\begin{aligned} 4x - 8 &= 4 \\ 4x &= 12 \\ x &= 3 \end{aligned}$$

$(3, 4)$

22. $2x - 3y = 13$

$-4x + 6y = 9$

$$\begin{aligned} 4x - 6y &= 26 \\ -4x + 6y &= 9 \\ \hline 0 &= 35 \text{ False} \end{aligned}$$

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In the system of equations below, k is a constant. For what value of k will there be infinitely many solutions (x, y) to the system of equations.

~~_____~~
Same line

23. $3x + 4y = 12$

$9x + ky = 36$

$$4 \cdot 3 = 12$$