

Warm Up

Simplify the following:

$$7 - 6(10 - 4 \cdot 2) \div 4$$

$$7 - 6(10 - 8) \div 4$$

$$7 - 6(2) \div 4$$

$$7 - 12 \div 4$$

$$7 - 3$$

$$(4)$$

$$35 \div (16 - 3^2) \cdot 2$$

$$35 \div (16 - 9) \cdot 2$$

$$35 \div (7) \cdot 2$$

$$5 \cdot 2$$

$$(10)$$

Order of Operations

P Parenthesis

E Exponents

M/D Multiplication or Division
(whichever comes first L→R)

A/S Addition or Subtraction
(whichever comes first L→R)

$$35 \div (16 - 3^2) \cdot 2$$

Name Key Period _____ Date _____

Writing Equations of Lines Practice

Write the slope-intercept form of the equation of the line through the given point with the given slope.

1) through: (3, 2), slope = -1

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

$$y = -x + 5$$

2) through: (-1, 0), slope = 2

$$\begin{aligned}y &= 2x + b \\0 &= 2(-1) + b \\0 &= -2 + b \\+2 & \quad +2 \\ \hline 2 &= b\end{aligned}$$

$$y = 2x + 2$$

3) through: (-5, 4), slope = $-\frac{8}{5}$

$$\begin{aligned}y &= -\frac{8}{5}x + b \\4 &= -\frac{8}{5}(-5) + b \\4 &= 8 + b \\-8 & \quad -8 \\ \hline -4 &= b\end{aligned}$$

$$y = -\frac{8}{5}x - 4$$

4) through: (3, -1), slope = -2

$$\begin{aligned}y &= -2x + b \\-1 &= -2(3) + b \\-1 &= -6 + b \\+6 & \quad +6 \\ \hline 5 &= b\end{aligned}$$

$$y = -2x + 5$$

Write the slope-intercept form of the equation of the line through the given points.

5) through: $(-2, 5)$ and $(-1, -4)$

$$+1 \angle \begin{matrix} -2, 5 \\ -1, -4 \end{matrix} \angle -9 \quad \frac{\Delta y}{\Delta x} = \frac{-9}{1} = -9$$

$$y = -9x + b$$

$$5 = -9(-2) + b$$

$$5 = 18 + b$$

$$\begin{array}{r} -18 \quad -18 \\ \hline -13 = b \end{array}$$

$$y = -9x - 13$$

6) through: $(0, -5)$ and $(-3, -4)$

$$-3 \angle \begin{matrix} 0, -5 \\ -3, -4 \end{matrix} \angle +1 \quad \frac{\Delta y}{\Delta x} = -\frac{1}{3}$$

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

7) through: $(0, 0)$ and $(3, -4)$

$$+3 \angle \begin{matrix} 0, 0 \\ 3, -4 \end{matrix} \angle -4 \quad \frac{\Delta y}{\Delta x} = \frac{-4}{3}$$

$$y = -\frac{4}{3}x$$

8) through: $(2, -3)$ and $(0, 2)$

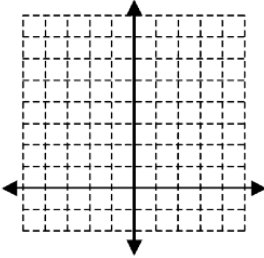
$$-2 \angle \begin{matrix} 2, -3 \\ 0, 2 \end{matrix} \angle +5 \quad \frac{\Delta y}{\Delta x} = \frac{5}{-2} = -\frac{5}{2}$$

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

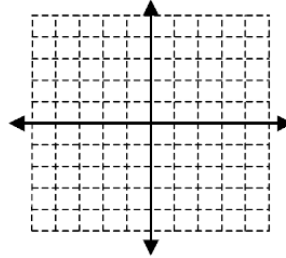
Writing Equations of Lines Practice

Graph the line that passes through the points. Then write the equation of the line in slope-intercept form.

1. $(1, 8)$ and $(-2, -1)$



2. $(-4, -1)$ and $(2, 2)$



Use the slope formula to find the slope of the line between the given points.

3. $(-4, 1)$ and $(2, -5)$

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

Write the equation in slope-intercept form for the line with the given slope that contains the given point.

5. slope = 1; $(-2, 3)$

6. slope = -3; $(-1, 6)$

Write the equation of the line in slope-intercept form that passes through the given points.

7. $(0, -5)$ and $(3, 4)$

8. $(2, 4)$ and $(1, -2)$

9. $(2, -2)$ and $(-4, 1)$

10. $(4, 3)$ and $(-8, 0)$

11. (9, -2) and (-3, 2)

12. (-3, -3) and (7, 2)

13. (1, 2) and (7, 2)

14. (5, -6) and (5, -3)

Is the relationship shown by the data linear? If it is, model the data with an equation.

15.

| x | y |
|-----|-----|
| 2 | 3 |
| 3 | 7 |
| 4 | 11 |
| 5 | 15 |

16.

| x | y |
|-----|-----|
| -3 | 4 |
| -1 | 6 |
| 1 | 7 |
| 3 | 10 |

17.

| x | y |
|-----|-----|
| -2 | 5 |
| 3 | -5 |
| 7 | -13 |
| 11 | -21 |

18.

| x | y |
|-----|-----|
| 2 | 3 |
| 5 | 18 |
| 8 | 33 |
| 14 | 63 |

19.

| x | y |
|-----|-----|
| -2 | 25 |
| 0 | 19 |
| 3 | 10 |
| 7 | -2 |

20.

| x | y |
|-----|-----|
| 2 | 3 |
| 3 | 10 |
| 4 | 17 |
| 10 | 24 |