

# Unit 1 Practice TEST

Name: Key Per: \_\_\_\_\_

SHOW YOUR WORK FOR FULL CREDIT. NO WORK, NO CREDIT. NO WORK IN PEN.

Find the **slope**, **y-intercept**, **x-intercept (when asked)** and **equation** of the line represented in the tables.

1.  $\frac{20}{4} = \frac{5}{1}$

X	Y
0	2
4	22
5	27

4 < (0, 2) > 20

Slope:  $\frac{5}{1}$  y-Intercept:  $(0, 2)$   
Equation:  $y = 5x + 2$

2.  $\frac{-6}{3} = -2$

X	Y
0	7
3	1
6	-5

3 < (0, 7) > -6

Slope:  $-\frac{2}{1}$  y-Intercept:  $(0, 7)$   
Equation:  $y = -2x + 7$

3.  $\frac{-5}{1} = -5$

X	Y
-1	19
0	14
1	9

1 < (0, 14) > -5

Slope:  $-\frac{5}{1}$  y-Intercept:  $(0, 14)$   
Equation:  $y = -5x + 14$

4.  $\frac{-5}{5} = -1$

X	Y
4	10
3	5
1	-5

-1 < (4, 10) > -5

$-5 = 5(1) + b$   
 $-5 = 5 + b$   
 $-10 = b$

$-\left(\frac{-10}{5}\right) = +2$

Slope:  $\frac{5}{1}$  y-Intercept:  $(0, -10)$   
x-intercept:  $(2, 0)$   
Equation:  $y = 5x - 10$

5.  $\frac{11 - (-6)}{7 - 6} = \frac{17}{1} = 17$

X	Y
5	12
7	10
6	11

2 < (5, 12) > -2

$m = -1$

$11 = -1(6) + b$   
 $17 = b$

x-int  $\left(-\frac{17}{-1}, 0\right)$   
 $(17, 0)$

Slope:  $-1$  y-Intercept:  $(0, 17)$   
x-intercept:  $(17, 0)$   
Equation:  $y = -x + 17$

6.  $\frac{5}{5} = 1$

X	Y
0	-2
5	3
3	1

5 < (0, -2) > 5

$m = \frac{5}{5} = 1$

x-int  $\left(\frac{-(-2)}{1}, 0\right)$   
 $(2, 0)$

Slope:  $1$  y-Intercept:  $(0, -2)$   
x-intercept:  $(2, 0)$   
Equation:  $y = x - 2$

Find the **slope**, **y-intercept**, and **equation** of the line represented in the following two points.

7. (5, 2) and (2, -7)

$\frac{2 - (-7)}{5 - 2} = \frac{9}{3} = 3$

$2 = 3(5) + b$   
 $2 = 15 + b$   
 $-13 = b$

Slope:  $\frac{3}{1}$  Y-Intercept:  $(0, -13)$   
Equation:  $y = 3x - 13$

8. (-4, 3) and (1, 8)

$\frac{8 - 3}{1 - (-4)} = \frac{5}{5} = 1$

$8 = 1(1) + b$   
 $7 = b$

Slope:  $1$  Y-Intercept:  $(0, 7)$   
Equation:  $y = x + 7$

9. (7, 4) and (6, 9)

$\frac{4 - 9}{7 - 6} = \frac{-5}{1} = -5$

$4 = -5(7) + b$   
 $4 = -35 + b$   
 $39 = b$

Slope:  $-5$  Y-Intercept:  $(0, 39)$   
Equation:  $y = -5x + 39$

Using the information given, put the following in **Slope-Intercept Form**.

10.  $m = 10$ , Point (2, 3)

$3 = 10(2) + b$   
 $3 = 20 + b$   
 $-17 = b$

Slope:  $\frac{10}{1}$  Y-Intercept:  $(0, -17)$   
Equation:  $y = 10x - 17$

11.  $m = -2$ , Point (4, 6)

$6 = -2(4) + b$   
 $6 = -8 + b$   
 $14 = b$

Slope:  $-\frac{2}{1}$  Y-Intercept:  $(0, 14)$   
Equation:  $y = -2x + 14$

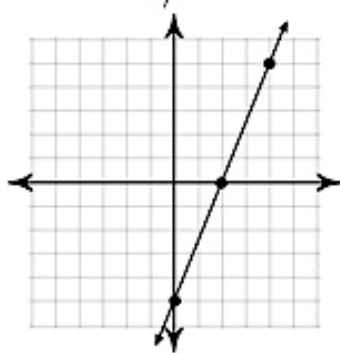
12. Slope = -4, Point (-3, -2)

$-2 = -4(-3) + b$   
 $-2 = 12 + b$   
 $-14 = b$

Slope:  $-\frac{4}{1}$  Y-Intercept:  $(0, -14)$   
Equation:  $y = -4x - 14$

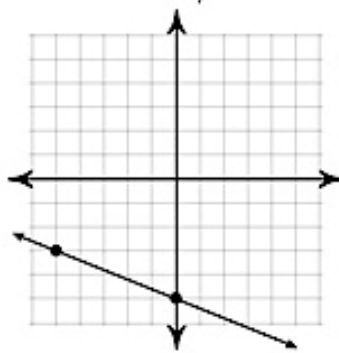
Find the **slope, y-intercept, x-intercept (when asked) and equation** of the line represented in the graphs.

13.



Slope:  $\frac{5}{2}$  Y-Intercept:  $(0, -5)$   
 x-intercept:  $(2, 0)$   
 Equation:  $y = \frac{5}{2}x - 5$

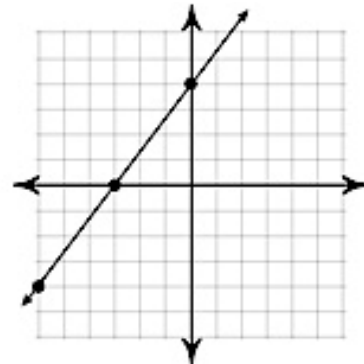
14.



$-\left(\frac{-1}{-2}\right)$   
 $= -\frac{1}{2}$

Slope:  $-\frac{1}{2}$  Y-Intercept:  $(0, -5)$   
 E.C. x-intercept:  $(-2, 0)$   
 Equation:  $y = -\frac{1}{2}x - 5$

15.



Slope:  $\frac{4}{3}$  Y-Intercept:  $(0, 4)$   
 x-intercept:  $(-3, 0)$   
 Equation:  $y = \frac{4}{3}x + 4$

Find the **slope, y-intercept and x-intercept** from the following equations.

16.  $y + 15 = -7x + 3$

$\frac{-15}{-15} \quad \frac{-15}{-15}$   
 $y = -7x - 12$

Slope:  $-\frac{7}{1}$  y-Intercept:  $(0, -12)$   
 E.C. x-Intercept:  $(-\frac{12}{7}, 0)$

17.  $-3 + y = 3x + 6$

$\frac{-3}{+3} \quad \frac{-3}{+3}$   
 $y = 3x + 9$

Slope:  $\frac{3}{1}$  Y-Intercept:  $(0, 9)$   
 x-Intercept:  $(-3, 0)$

18.  $3y + 9x = -9$

$\frac{-9x}{3} \quad \frac{-9x}{3}$   
 $\frac{3y}{3} = \frac{-9x - 9}{3}$   
 $y = -3x - 3$

Slope:  $-\frac{3}{1}$  Y-Intercept:  $(0, -3)$   
 x-Intercept:  $(-1, 0)$

Find the **slope, y-intercept, and equation** of the line represented in the following story problems.

19. I bought a bag of candy that weighs 32 ounces with each candy inside weighs 2 ounces. Define your variables and write an equation that shows how much the bag weighs as I keep eating the candy.

Equation:  $m = -2$ ,  $y_{int}(0, 32)$ ,  $y = -2x + 32$

What does your slope represent? *The weight of ea. candy eaten*

What does your y-intercept represent? *Weight of the bag of candy before eating any of the candy.*

20. The cost of renting a movie at Joe's Video Rental is a \$75 membership fee plus \$2 per movie. Define your variables and write an equation of the line representing the cost for renting a video at Joe's Video Rental?

Equation:  $m = 2$ ,  $y_{int}(0, 75)$ ,  $y = 2x + 75$

What does your slope represent? *Cost per movie.*

What does your y-intercept represent? *Cost of membership before renting a movie.*

**Parallel Perpendicular Lines**

21. Write an equation for a line that is **parallel** to the line  $y = -2x + 3$

$y = -2x - 5$

22. Write the equation for a line that is **parallel** to the line  $y = x + 4$  and through the point  $(3, -2)$

$m = 1$   $-2 = 1(3) + b \Rightarrow -2 = 3 + b \Rightarrow b = -5$   $y = x - 5$

23. Write an equation for a line that is **perpendicular** to the line  $y = \frac{1}{3}x - 1$

$m = -3$   $y = -3x + 5$

24. Write the equation for a line that is **perpendicular** to the line  $y = \frac{1}{2}x - 2$  and through the point  $(4, 1)$

$m = -2$   $1 = -2(4) + b \Rightarrow 1 = -8 + b \Rightarrow -9 = b$   $y = -2x - 9$