

20 in 20: Week 2 – July 9<sup>th</sup>

Ex. 1 Change the percent to a decimal.

$$38\% \rightarrow 0.38$$

Ex. 3 Change the percent to a decimal.

$$278\% \rightarrow 2.78$$

Ex. 5 Simplify:  $\frac{5}{6} \cdot \frac{2}{3} = \frac{10}{18}$

$$\frac{5}{9}$$

Ex. 2 Change the percent to a decimal.

$$4.37\% \rightarrow 0.0437$$

Ex. 4 Simplify:  $5\left(\frac{2}{3}\right)$

$$\frac{10}{3}$$

Ex. 6 Simplify:  $\frac{3}{4} \div \frac{5}{2}$

$$\frac{3}{4} \cdot \frac{2}{5} = \frac{6}{20} = \frac{3}{10}$$

Ex. 7 Simplify:  $3(-4)^2$

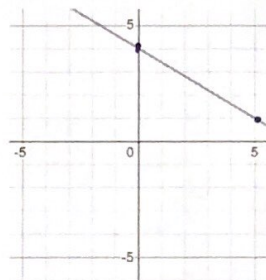
$$3(16) = 48$$

Ex. 8 What is the slope of the line?

$$y = \frac{1}{8}x - 5$$
$$m = \frac{1}{8}$$

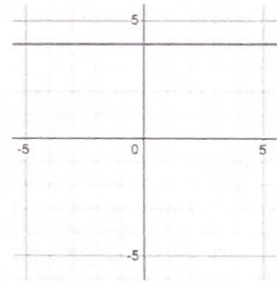
Ex. 9 What is the slope of the line?

$$m = -\frac{3}{5}$$



Ex. 10 What is the slope of the line?

$$m = 0$$



Ex. 11 Put the equation in slope intercept form. Identify the slope and the y-int.

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

Ex. 12 Put the equation in slope-intercept form. Identify the slope and the y-int.

$$-2y = -4x + 5$$
$$y = 2x - \frac{5}{2}$$
$$m = 2 \quad b = -\frac{5}{2}$$

Slope:                      y-int:

Ex. 13 Find the slope between the two points.

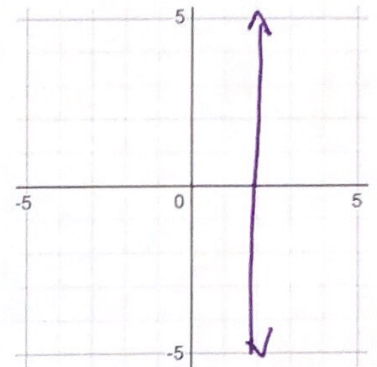
$(2, 5) \quad (4, -9)$

$$\frac{-9-5}{4-2} = \frac{-14}{2} = \boxed{-7}$$

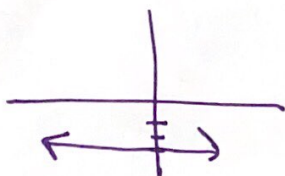
Slope:                      y-int:

Ex. 14 Graph the line:

$x=2$



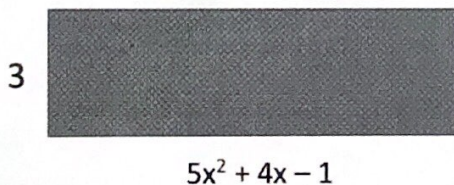
Ex. 15 Graph the line:  $y = -3$



Ex. 16 Factor the following expression:

$$11g^4 - 33g^3 + 44g^2$$
$$\boxed{11g^2(g^2 - 3g + 4)}$$

Ex. 17 Find the area and the perimeter:



Ex. 18 Rewrite with a single exponent.

a.  $5^6 \cdot 5^{10} = 5^{16}$

b.  $3^4 / 3^{-3} = 3^7$

c.  $(8^2)^7 = 8^{14}$

Area:  $15x^2 + 12x - 1$

Perimeter:  $10x^2 + 8x + 4$

Ex. 19 Rewrite with a single exponent.

a.  $x^3 \cdot x^6 \cdot x^7 = x^{16}$

b.  $(x^5)^{100} = x^{500}$

c.  $\frac{x^2}{x^{10}} = \frac{1}{x^8}$

Ex. 20 Solve the system of equations.

$x + 2y = 4 \rightarrow x = -2y + 4$

$2x + 3y = 5$

$x = -6 + 4$

$2(-2y + 4) + 3y = 5$

$x = -2$

$-4y + 8 + 3y = 5$

$-y = -3$

$y = 3$

$\boxed{(-2, 3)}$