KEY

Practice Exam #2

Math 081

⊛ Solve each proportion for x:

① $\frac{x}{4} = \frac{12}{16}$

$16x = 4(12)$

$16x = 48$ (Divide by 16)

$x = 3$

② $\frac{3}{8} = \frac{x}{14}$

$8x = 3(14)$

$\frac{8x}{8} = \frac{42}{8}$

$x = 5.25$ or $\frac{21}{4}$

⊛ Solve each equation for the given variable:

③ Solve for B:

$A = BC - D$

$+D \qquad\qquad +D$

$\frac{A+D}{C} = \frac{BC}{C}$

$B = \frac{A+D}{C}$

④ Solve for w:

$2l + 2w = P$

$-2l \qquad\qquad -2l$

$\frac{2w}{2} = \frac{P-2l}{2}$

$w = \frac{P-2l}{2}$

⊛ Substitute the values into the formulas to solve:

⑤ If $V = \frac{bh}{2} \cdot a$, solve for V if $b=4$, $h=8$, $a=5$

$V = \frac{(4)(8)}{2} \cdot 5$

$V = \frac{32}{2} \cdot 5$

$V = 16 \cdot 5$

$V = 80$

⑥ Convert 38% into a decimal.

0.38

⑦ Convert 1.03 into a percent.

103%

⑧ Convert $\frac{16}{25}$ into a percent.

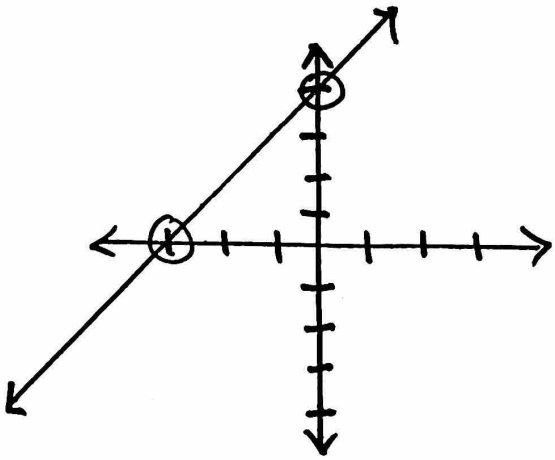
$\frac{16}{25} = .64 = 64\%$

⑨ Find the slope of a line that contains the two points $(-2,4)$ and $(4,16)$.

$x_1 \quad y_1 \qquad x_2 \quad y_2$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{16-4}{4-(-2)} = \frac{12}{6} = 2$$

⑩ What is the x-intercept and y-intercept of the line shown?



x-int = $(-3,0)$

y-int = $(0,4)$

(11) What is the equation of a line with a slope of -3 and a y-intercept of 8?

$$y = mx + b$$

$$\boxed{y = -3x + 8}$$

(12) What is the equation of a line that has a slope of 4 and passes through $(\underset{x}{-2}, \underset{y}{10})$?

$$y = 4x + b$$

$$10 = 4(-2) + b$$

$$10 = -8 + b$$

$$+8 \quad +8$$

$$18 = b$$

$$\boxed{y = 4x + 18}$$

(13) What is the equation of line that passes through the two points $(\underset{x_1}{-8}, \underset{y_1}{5})$ and $(\underset{x_2}{4}, \underset{y_2}{-1})$?

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{-1 - 5}{4 - (-8)} = \frac{-6}{12} = -\frac{1}{2}$$

$$y = -\frac{1}{2}x + b$$

$$-1 = -\frac{1}{2}(4) + b$$

$$-1 = -2 + b$$

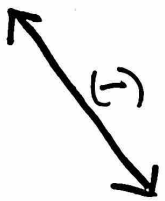
$$+2 \quad +2$$

$$1 = b$$

$$\boxed{y = -\frac{1}{2}x + 1}$$

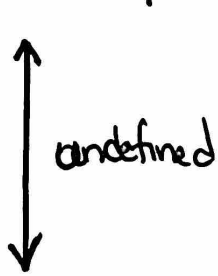
(14) Label each lines slope as positive, zero, negative, undefined.

a)



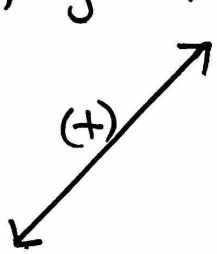
negative

b)



undefined

c)



positive

15. Graph and label each of the points below with the corresponding letter.

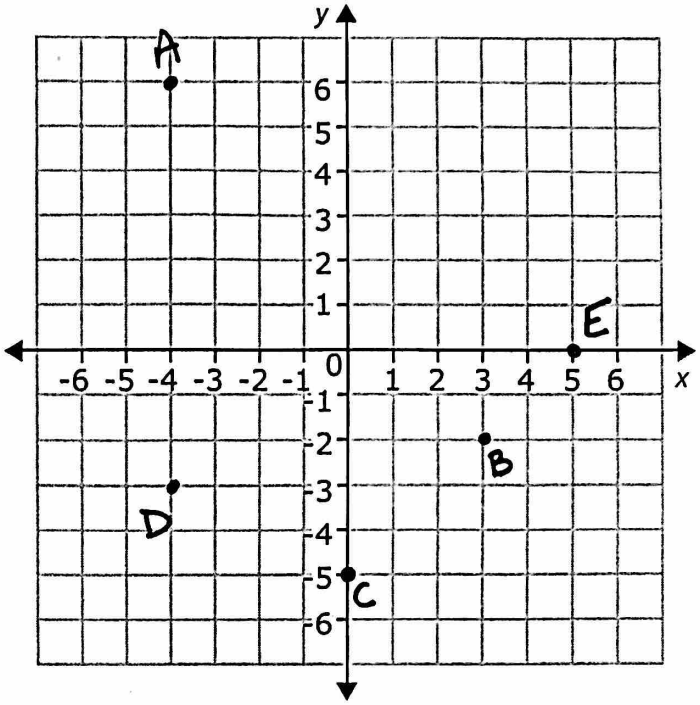
A) (-4, 6)

B) (3, -2)

C) (0, -5)

D) (-4, -3)

E) (5, 0)



16. Graph the lines below on the coordinate plane.

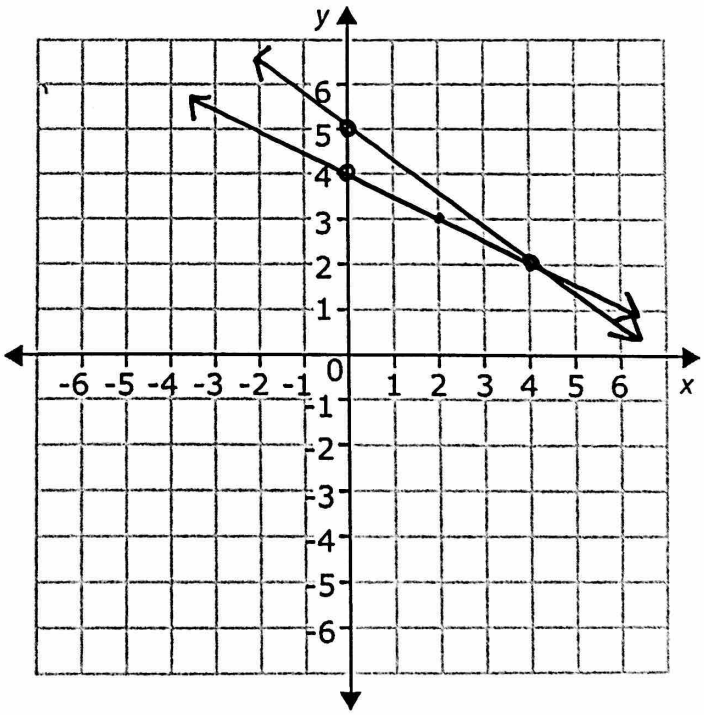
y = (-3/4)x + 5

2x + 4y = 16

$-2x \qquad -2x$

$\frac{4y}{4} = \frac{-2x + 16}{4}$

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



17. At which point do the two lines intersect?

(4, 2)