Name_____ Pd_____ Date_____ **2.E.1 - 2.E.4 Quiz Study Guide**

Directions: Complete and turn in on the day of your quiz to earn +5 EXTRA CREDIT on the quiz.

#1-2: For the data in the table, does y vary directly with x? If it does, write an equation for the direct variation. SHOW WORK/JUSTIFY YOUR ANSWER.

1)

X	Y
12	3
24	6
36	9
48	12

a. no
b. yes; $y = 4x$
c. yes; $y = 0.25x$
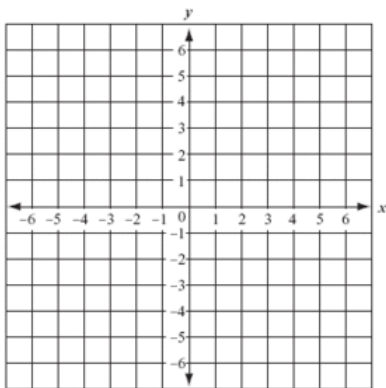d. yes; $y = 0.5x$

2)

X	Y
5	10
10	20
15	30
20	40

a. no
b. yes; $y = 2x$
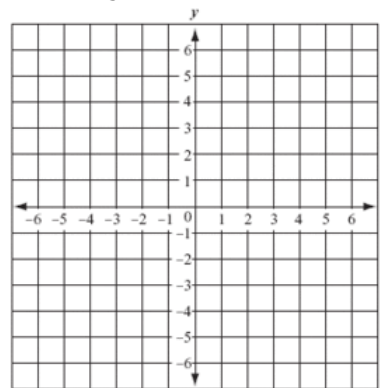c. yes; $y = 0.5x$
d. yes; $y = 0.6x$

#3-4: What is the slope and y-intercept of each equation? Graph the equation.

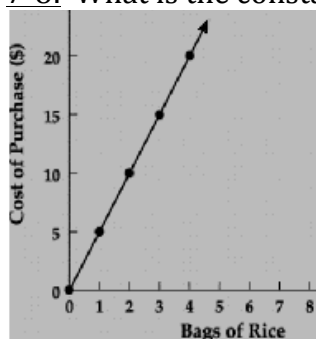3) $y = -4x + 5$

m:

b:

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

m:

b:

5-6: Write an equation in point-slope form for the line through the given point with the given slope. Then, convert your equation to slope-intercept form.
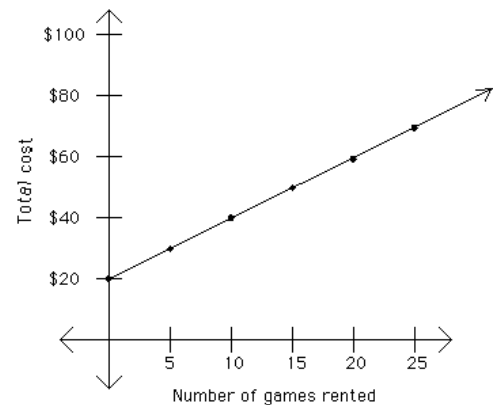
5) $(-5, 10); m = 2$

6) $(3, -6); m = 4$

7-8: What is the constant of variation for the relationship in the graph?

7)   a. $5 per bag of rice
b. 5 bags of rice per dollar
c. $0.20 per bag of rice
d. not direct variation

8)   a. $0.17 per game rental
b. 6 games per dollar
c. $6 per game rental
d. not direct variation

9) Ms. Draper set her odometer at the beginning of a road trip. On her way home, the odometer read 540 miles after 1.25 hours of driving. After 2.5 hours of driving, the odometer read 591 miles.

a. Write an equation in point-slope form that represents the situation. Define your variables.

b. Convert your equation to slope-intercept form.

c. What does your slope represent?

d. What does the y-intercept represent?

e. After 5 hours of driving at this pace, what will the odometer read?

f. After how many hours of driving would the odometer read 800 miles? (Round to the tenths place.)

10-11: The data in the tables is linear. What equation in point-slope form models the data?
Then, write the equation in slope-intercept form. *Tell what the slope and y-intercept represent in context.*

10)

X: Time (h)	Y: Water (gal)
2	3320
3	4570
5	7070
8	10820

a. $y - 2 = 1250(x - 3320)$
b. $y - 3320 = 2500(x - 2)$
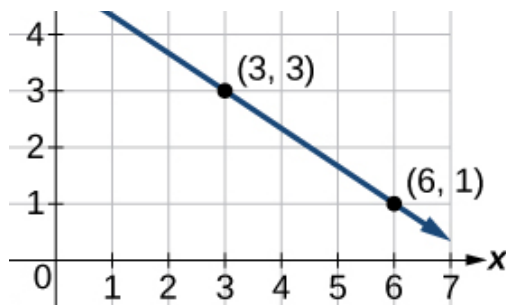c. $y - 3320 = 1250(x - 2)$
d. the relationship cannot be modeled

11)

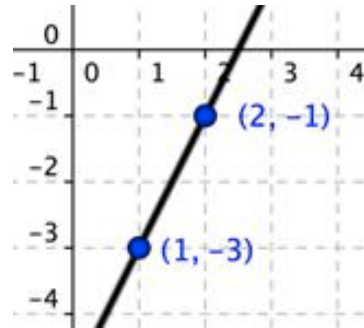| X: Distance (mi)	Y: Cost ($)
3	5.50
5	8.50
7	11.50
9	14.50

    a. $y - 5.50 = 3(x - 3)$
    b. $y - 3 = 1.50(x - 5.50)$
    c. $y - 5.50 = 1.50(x - 3)$
    d.   the relatioship cannot be modeled

12 - 13: Write the equation in point-slope form. Then, convert to slope-intercept form.

12)

13)

14 - 15: Write the equation in point-slope form. Then, convert to slope-intercept form.

14) $(0, -2)$ and $(3, 4)$ 15) $(1, 1)$ and $(5, -2)$

16-17: Write a linear equation in slope-intercept form that represents the scenario. Define x and y. Use the equation to answer the questions.

16) A family purchases a new car for $11,000. The car decreases in value by $1500 each year. What is the value of the car after 6 years? After how many years is the carth worth $5000?

17) An electrician charges an initial service fee of $40 plus $25 per hour of service. What is the cost of a service that lasts 3 hours? How long was the service if the cost was $140?