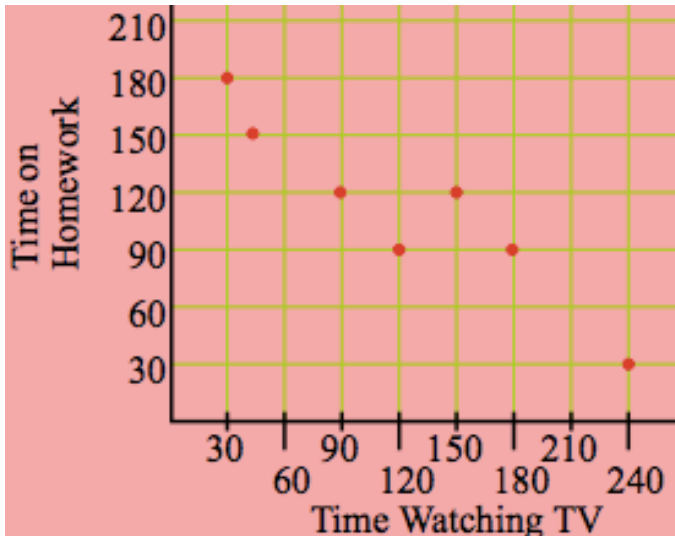


Directions: Complete and turn in on the day of your test to earn +5 EXTRA CREDIT on the test!

#1 - 2 Answer the questions about the scatterplots (2E8).

1) What type of relationship does the scatterplot show?

- a. positive correlation      b. negative correlation      c. no correlation



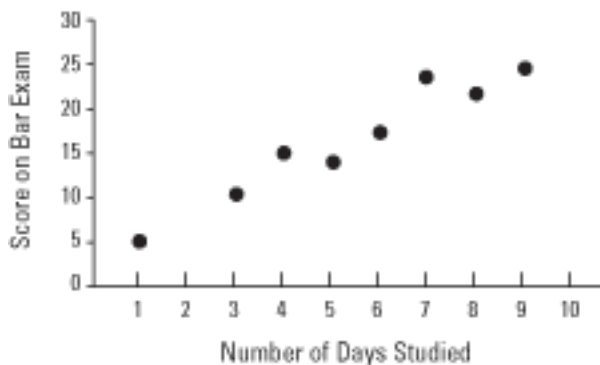
- Draw an appropriate trend line for the data.
- Label two points and calculate the slope.
- Write the equation in point-slope form.
- Convert the equation to slope-intercept form.

Is your slope reasonable? Why?

Is your y-intercept reasonable? Why?

2) What type of relationship does the scatterplot show?

- a. positive correlation      b. negative correlation      c. no correlation



- Draw an appropriate trend line for the data.
- Label two points and calculate the slope.
- Write the equation in point-slope form.
- Convert the equation to slope-intercept form.

Is your slope reasonable? Why?

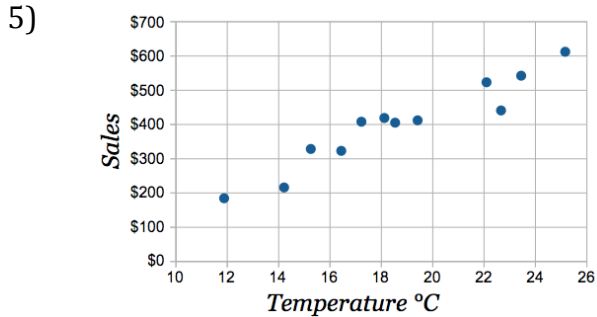
Is your y-intercept reasonable? Why?

#3 - 4: Convert the standard form equation to slope-intercept form (2E7). **Reduce fractions.**

3)  $5x - 6y = 18$

4)  $-3x + 9y = -7$

#5 - 6: What is the most reasonable trend line? **JUSTIFY YOUR ANSWER!!** (Either by why 3 choices are wrong or why your choice is correct or both.) (2E9 skill review)

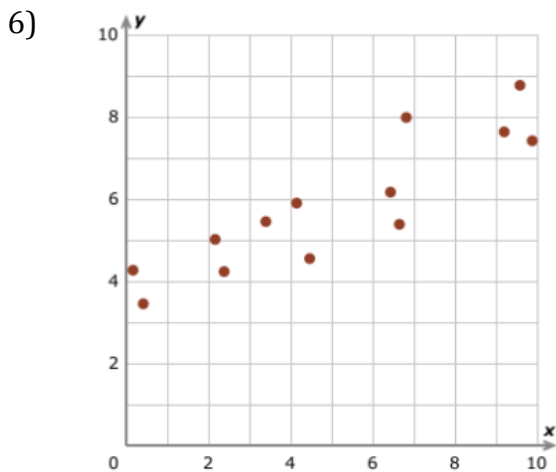


a.  $y = -33x + 300$

b.  $y = 33x + 100$

c.  $y = 33x + 300$

d.  $y = -33x + 100$



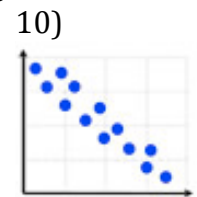
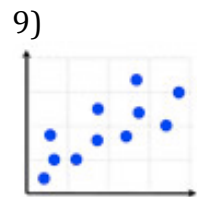
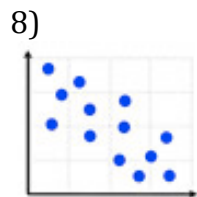
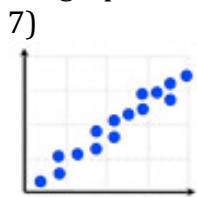
a.  $y = 0.4x + 2$

b.  $y = -0.4x + 2$

c.  $y = -0.4x + 4$

d.  $y = 0.4x + 4$

#7 - 10: Describe the correlation of each graph as stronger/weaker and positive/negative. Then match the graph to the most reasonable correlation coefficient. (2E9)



a.  $r = 0.65$

b.  $r = -0.85$

c.  $r = 0.9$

d.  $r = -0.65$

11 - 12: Slope-Intercept Form Word Scenarios. (2E1)

11) A saleswoman makes \$38000 in base salary and \$150 for each product she sells. Write the slope-intercept form equation for her total salary. (Define variables.)

How much is her total salary if she sells 20 products?

How many products did she sell if her total salary is \$40550?

12) A student lends out pencils to his classmates, but they forget to give them back. He initially has 20 pencils, but each day he lends 2 pencils. Write the slope-intercept form equation for how many pencils he has. (Define variables.)

How many pencils does he have left if he has lent out pencils for 4 days?

How many days has he been lending out his pencils if he only has 6 pencils left?

#13 - 14: For the data in the table, does  $y$  vary directly with  $x$ ? If it does, write an equation for the direct variation (2E2). SHOW WORK/JUSTIFY YOUR ANSWER.

13)

X	Y
2	8
4	11
6	14
8	16

- a. no
- b. yes;  $y = 4x$
- c. yes;  $y = 0.25x$
- d. yes;  $y = 1.5x$

14)

X	Y
5	15
10	30
15	45
20	60

- a. no
- b. yes;  $y = 3x$
- c. yes;  $y = 0.33x$
- d. yes;  $y = 15x$

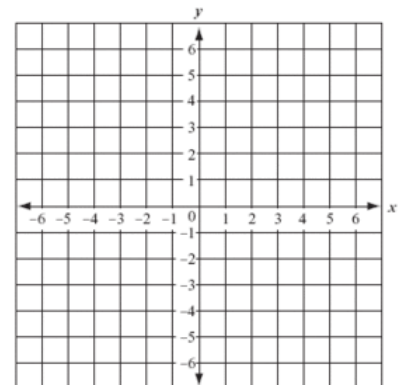
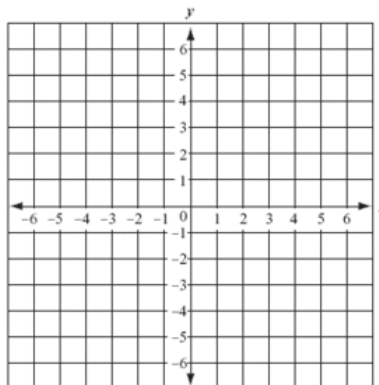
#15 - 16: What is the slope and y-intercept of each equation? Graph each equation. (2E1)

15)  $y = -4x + 5$

(15)

(16)

- a. The slope is 5 and the y-intercept is  $-4$ .
- b. The slope is  $-5$  and the y-intercept is 4.
- c. The slope is  $-4$  and the y-intercept is 5.
- d. The slope is 4 and the y-intercept is  $-5$ .



16)  $y = 7x - 4$

- a. The slope is 7 and the y-intercept is  $-4$ .
- b. The slope is  $-7$  and the y-intercept is 4.
- c. The slope is  $-4$  and the y-intercept is 7.
- d. The slope is 4 and the y-intercept is  $-7$ .

#17 - 18: Write an equation in point-slope form for the line with the given slope and point.

**Then, convert the equation to slope-intercept form. (2E3)**

17)  $(-2, 3); m = 4$

18)  $(7, -9); m = -2$

a.  $y + 3 = 4(x - 2)$

a.  $y - 9 = -2(x - 7)$

b.  $y + 3 = -4(x - 2)$

b.  $y - 9 = 2(x - 7)$

c.  $y - 3 = 4(x + 2)$

c.  $y + 9 = -2(x + 7)$

d.  $y - 3 = 4(x - 2)$

d.  $y + 9 = -2(x - 7)$

#19 - 20: Find the x- and y-intercepts of each line and write as ordered pairs. Graph each line. (2E6)

19)

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

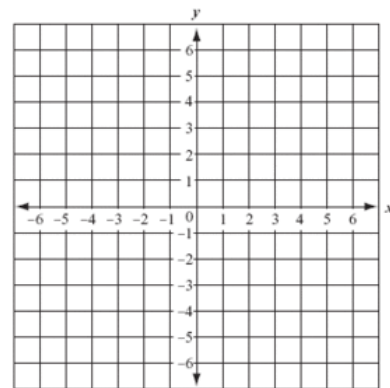
a. x-int. is 6; y-int. is  $-2$

b. x-int. is  $-6$ ; y-int. is 2

c. x-int. is 2; y-int. is  $-6$

d. x-int. is  $-3$ ; y-int. is 9

Ordered Pairs: x-int \_\_\_\_\_ y-int \_\_\_\_\_



20)

$$2x - 4y = 12$$

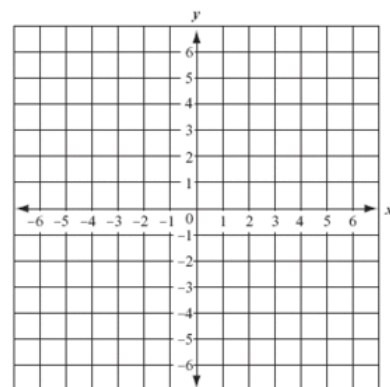
a. x-int. is 2; y-int. is  $-4$

b. x-int. is  $-6$ ; y-int. is 3

c. x-int. is 3; y-int. is  $-6$

d. x-int. is 6; y-int. is  $-3$

Ordered Pairs: x-int \_\_\_\_\_ y-int \_\_\_\_\_



#21 - 22: Standard Form Word Problems (2E6) - SHOW WORK to answer the questions.

21) Children's tickets to a play cost \$12. Adult tickets to a play cost \$20. You plan to spend \$80 in total. Write a standard form linear equation for the situation. (Define variables.)

If the play is after the children's bedtime, only adults will go. How many adults can go if the play is after the bedtime?

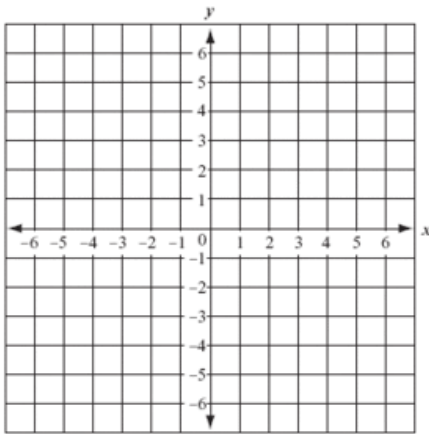
Do you have enough money for 5 children and 2 adults to go to the play?

22) Cap erasers cost \$0.10 each. Large rubber erasers cost \$0.50 each. You plan to spend \$3.00 in total on erasers. Write a standard form linear equation for the situation. (Define variables.)

When you arrive at the store, large rubber erasers are sold out. How many cap erasers can you buy?

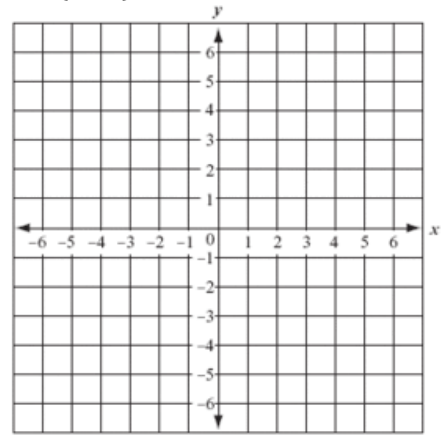
Do you have enough money to buy 3 large rubber erasers and 15 cap erasers?

#23 - 24: Draw the lines on the graph. Write the equation for each line. (2E5)

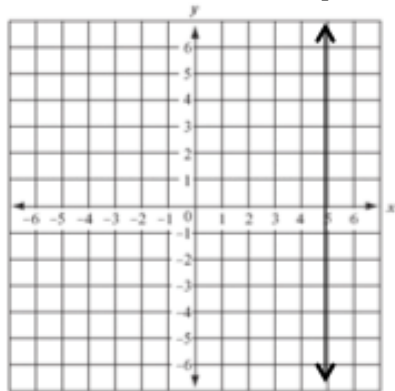


23) Passes through  $(3, -5)$   
with  $m = 0$

24) Passes through  $(-4, 1)$   
with  $m = \text{undefined}$

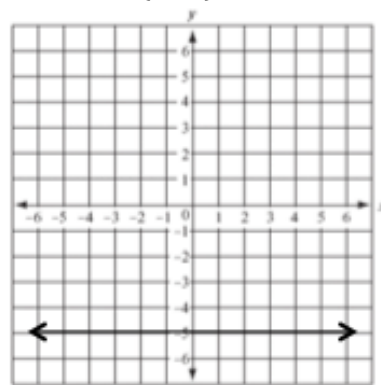


#25 - 26: What is the equation of the line? What is the slope of the line? (2E5)



25)

26)



#27 - 28: Find slope. Write equation in point-slope form. Convert to slope-intercept form. (2E4)

27)

International Texts	International Phone Bill
10	22.50
15	23.75
20	25.00

28)

# Drinks Bought	Amount on Gift Card
4	12
6	9
8	6

#29 - 30: Use the graphing calculator. THIS WILL BE BONUS ON THE TEST. (2E9) **Round to the thousandths place (3 places after the decimal point).**

29)

Advertising Cost (X)	Sales Volume (Y)
2.4	202
1.6	184
2.0	220
2.6	240
1.4	180
1.6	164
2.0	186

The table shows how many products are sold compared to how much money is spent on advertising (in millions).

Find the linear equation of best fit for the data.

What is the correlation coefficient? Describe the correlation (weaker/stronger, positive/negative).

Trace at least 2 values on the line and describe what their ordered pairs mean.

30)

Shoe Size (X)	Height in inches (Y)
10	70.5
10.5	71.0
11	72.0
9	68.5
12	74
8.5	67.5

The table shows how tall someone is compared to their shoe size.

Find the linear equation of best fit for the data.

What is the correlation coefficient? Describe the correlation (weaker/stronger, positive/negative).

Trace at least 2 values on the line and describe what their ordered pairs mean.