

ALEKS® Review Quiz 1 #1

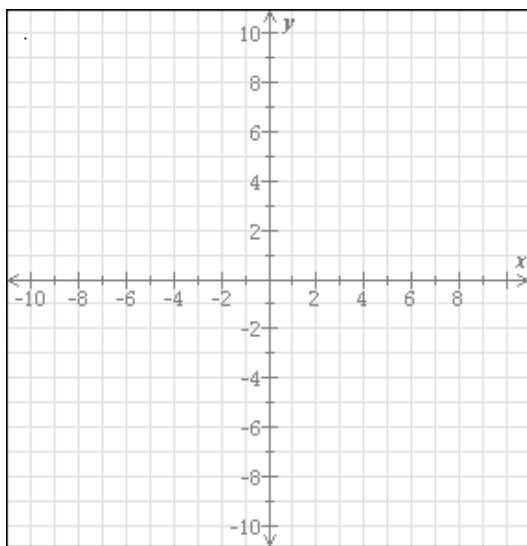
Beginning and Intermediate Algebra Combined / MATH 103 - Fall 2014 – 504 (Prof. Miller)

Student Name/ID:

Instructor Note:

Directions: Every problem is worth two points. One point is for trying the problem and showing your work and one point is for getting the correct answer. There are an additional five points for demonstrating the study strategy that is posted on the board and talked about at the beginning of class.

1. Graph the line whose y -intercept is -9 and whose x -intercept is -2



2. Find the slope of the line passing through the points $(-9, -6)$ and $(-4, 5)$

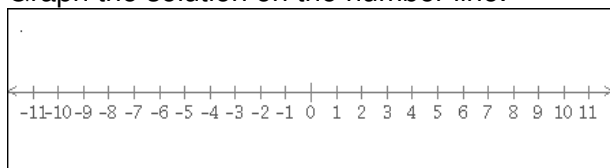
3. A swimming pool has to be drained for maintenance. The pool is shaped like a cylinder with a diameter of 9 m and a depth of 1.9 m. If the water is pumped out of the pool at the rate of 15 m^3 per hour, how many hours does it take to empty the pool?

Use the value 3.14 for π and round your answer to the nearest hour.

4. Solve the compound inequality.

$$-12 \leq 4x + 4 < 16$$

Graph the solution on the number line.



5. What number is equal to $\sqrt{9}$?

6. Write inequalities to represent the situations below.

The cargo of the truck weighs no more than 2,300 pounds.

Use w to represent the weight (in pounds) of the cargo.

The temperature inside the lab refrigerator is less than 40°F .

Use t to represent the temperature (in $^\circ\text{F}$) of the refrigerator.

7. Tom is going to rent a truck for one day. There are two companies he can choose from, and they have the following prices.

Company A charges \$100 and allows unlimited mileage.

Company B has an initial fee of \$65 and charges an additional \$0.70 for every mile driven.

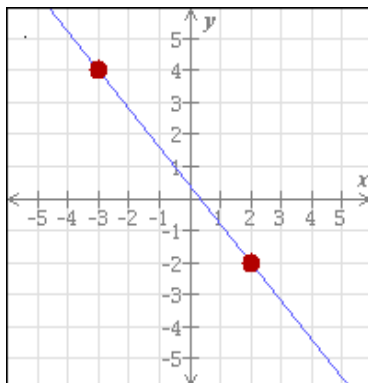
For what mileages will Company A charge less than Company B?

Use m for the number of miles driven, and solve your inequality for m

8. Find an ordered pair (x, y) that is a solution to the equation.

$$2x - y = 3$$

9. Find the slope of the line graphed below.



10. The sets F and H are defined as follows.

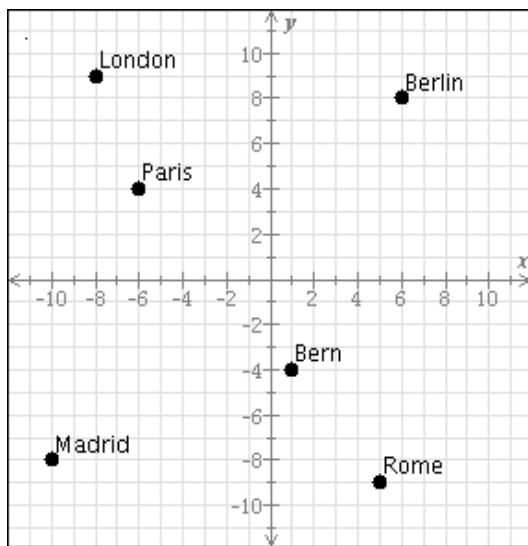
$$F = \{x \mid x > 1\}$$

$$H = \{x \mid x \leq 6\}$$

Write $F \cup H$ and $F \cap H$ using interval notation.

If the set is empty, write \emptyset

11. Give the location of Rome as an ordered pair (x, y) .



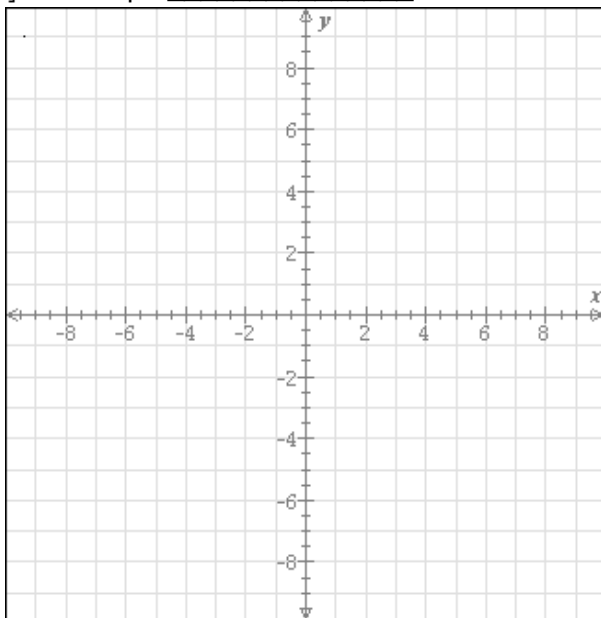
12. The equation of a line is given below.

$$2x + 4y = -8$$

Find the x -intercept and the y -intercept.
Then use them to graph the line.

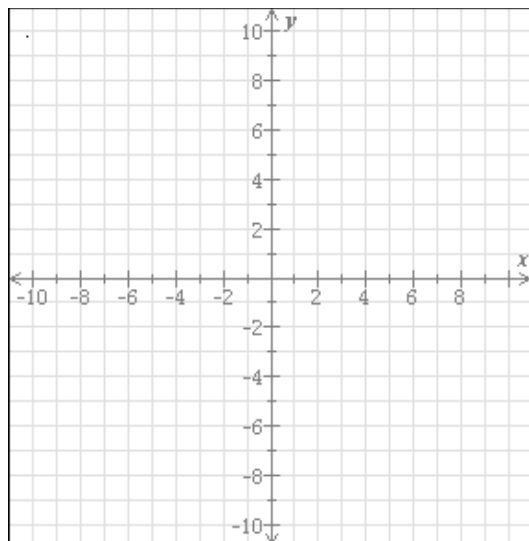
x -intercept: _____

y -intercept: _____



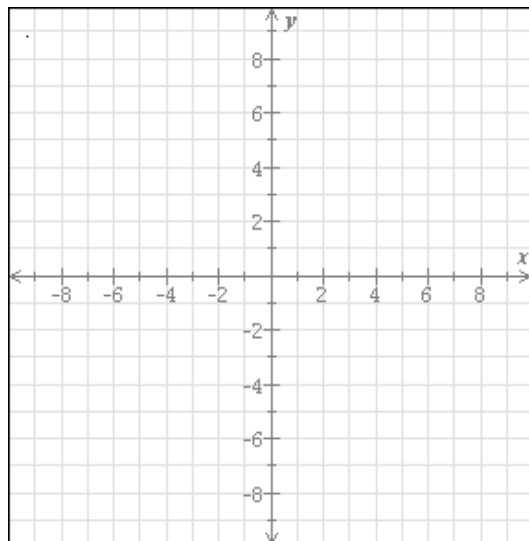
13. Graph the line.

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



14. Graph the line.

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

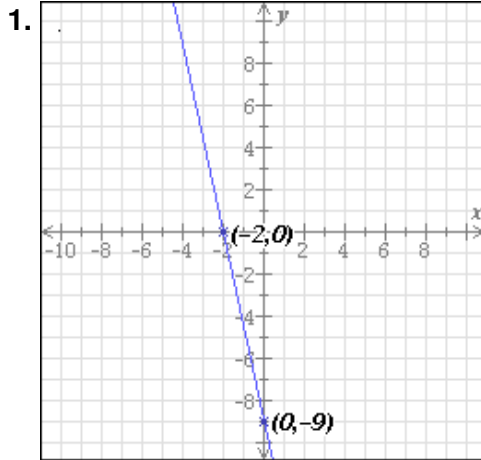


15. Solve the inequality for y

$$\frac{5}{8}y - 1 > 6y - \frac{3}{2}$$

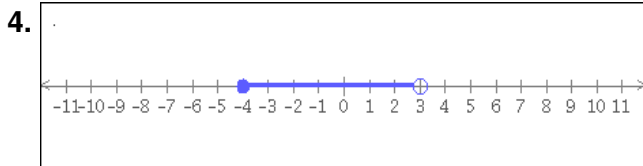
Simplify your answer as much as possible.

Review Quiz 1 #1 Answers for class Beginning and Intermediate Algebra Combined / MATH 103 - Fall 2014 – 504



2. $\frac{11}{5}$

3. 8 hour(s)



5. 3

6. **The cargo of the truck weighs no more than 2,300 pounds.**

Use w to represent the weight (in pounds) of the cargo.

$$w \leq 2,300$$

The temperature inside the lab refrigerator is less than 40 °F.

Use t to represent the temperature (in °F) of the refrigerator.

$$t < 40$$

7. $m > 50$

8. One possible answer is $(x, y) = (0, -3)$

9. $-\frac{6}{5}$

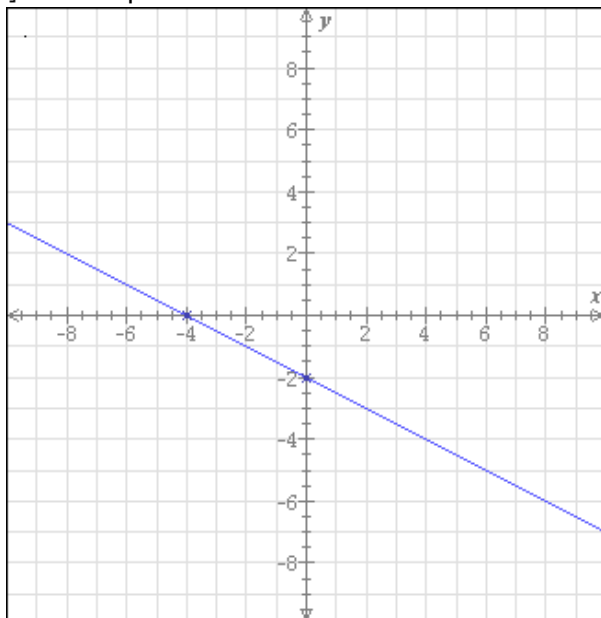
10. $F \cup H = (-\infty, \infty)$

$F \cap H = (1, 6]$

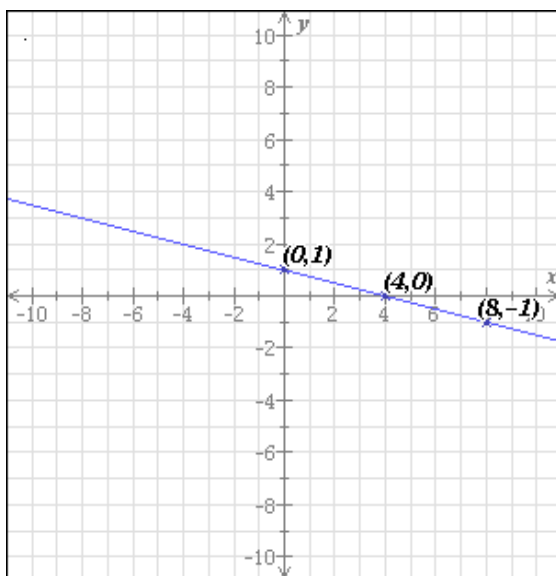
11. $(x, y) = (5, -9)$

12. x-intercept: -4

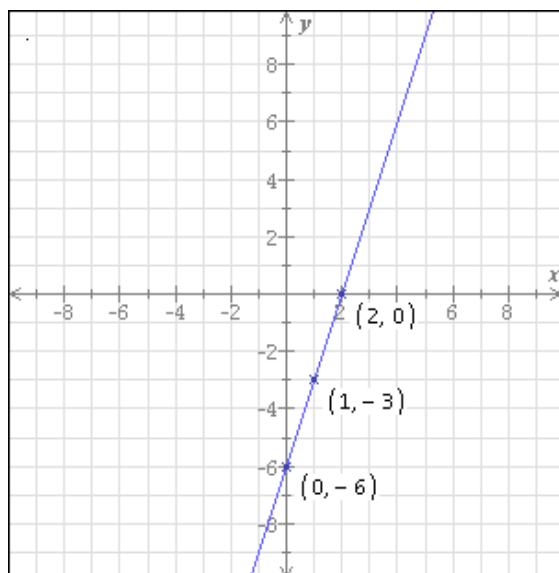
y-intercept: -2



13.



14.



15.

$$y < \frac{4}{43}$$