

ALEKS® Final Prep Quiz 1 #1

Beginning and Intermediate Algebra Combined / MATH 101 - 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.

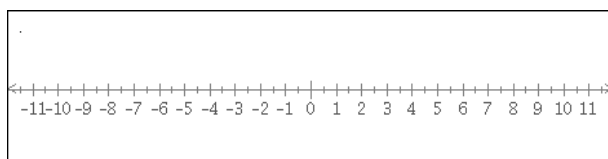
1. Evaluate.

$$(-9)^2 = \boxed{}$$

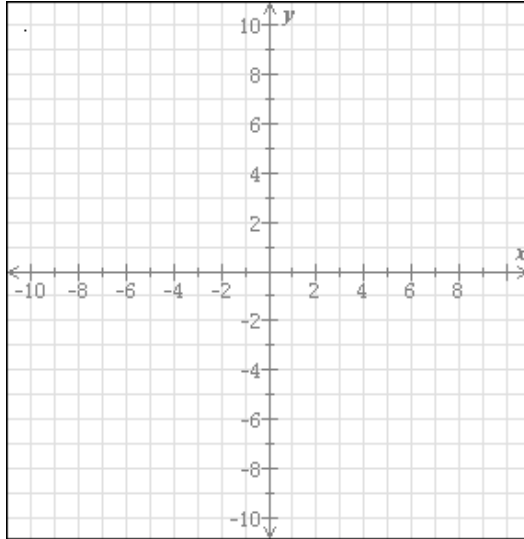
$$(-4)^3 = \boxed{}$$

2. Graph the solution to the inequality on the number line.

$$|u - 2| > 6$$



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



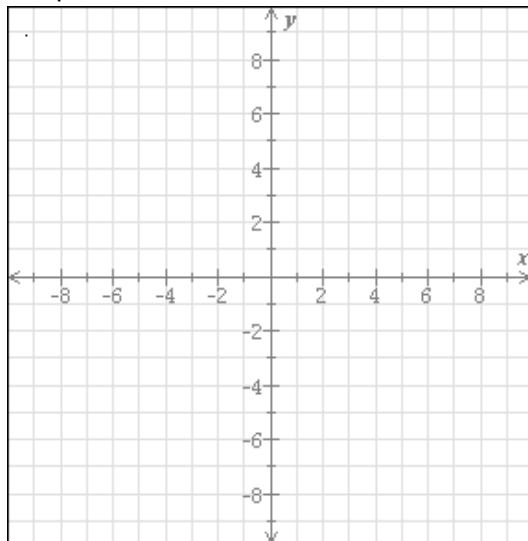
4. Hong bought a desktop computer and a laptop computer. Before finance charges, the laptop cost \$400 less than the desktop. He paid for the computers using two different financing plans. For the desktop the interest rate was 7.5% per year, and for the laptop it was 8% per year. The total finance charges for one year were \$371. How much did each computer cost before finance charges?
5. 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 .
6. A theater group made appearances in two cities. The hotel charge before tax in the second city was \$1500 higher than in the first. The tax in the first city was 4% and the tax in the second city was 8%. The total hotel tax paid for the two cities was \$810. How much was the hotel charge in each city before tax?

7. Translate this sentence into an equation.

60 is the product of Rick's score and 4

Use the variable r to represent Rick's score.

8. Graph the line $x = -1$

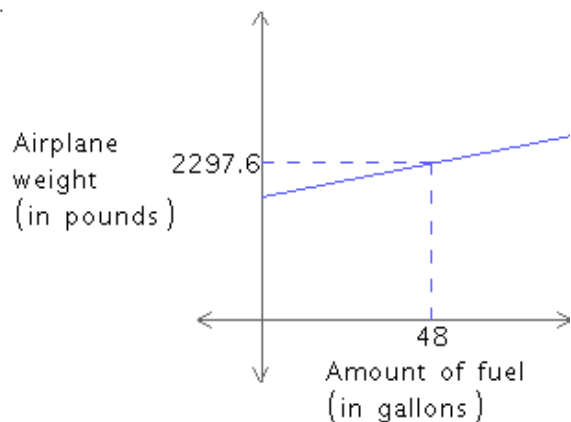


9. Evaluate.

$$4 + 2 \cdot 6^2$$

10. Suppose that the weight (in pounds) of an airplane is a linear function of the total amount of fuel (in gallons) in its tank. When graphed, the function gives a line with a slope of 6.2. See the figure below.

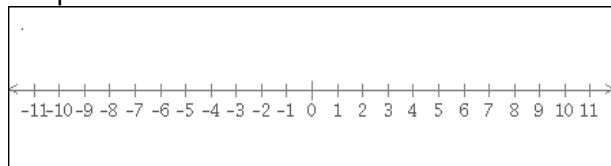
With 48 gallons of fuel in its tank, the airplane has a weight of 2297.6 pounds. What is the weight of the plane with 77 gallons of fuel in its tank?



11. Solve the compound inequality.

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

Graph the solution on the number line.



12. The sets A and E are given below.

$$A = \{ 1, 2, 3, 4, 6 \}$$

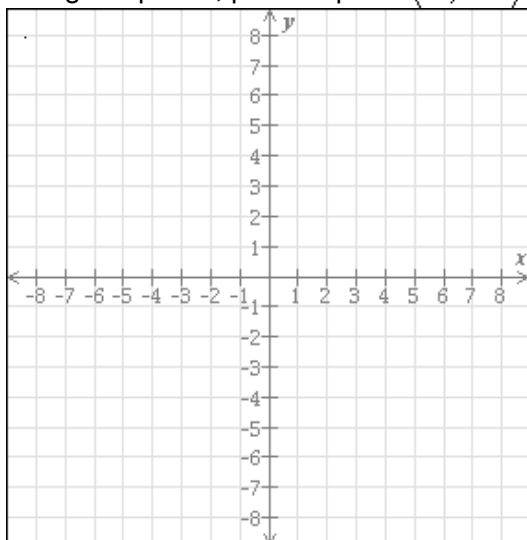
$$E = \{ 0, 2, 3, 8 \}$$

Find the union of A and E

Find the intersection of A and E

Write your answers using set notation.

13. Using the pencil, plot the point $(4, -3)$



14. Solve the following proportion for v

$$\frac{v}{7} = \frac{8}{3}$$

Round your answer to the nearest tenth.

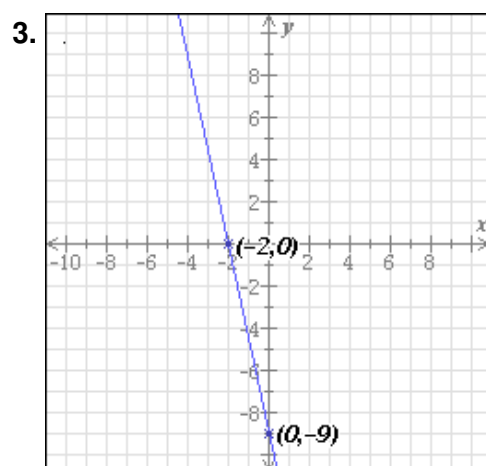
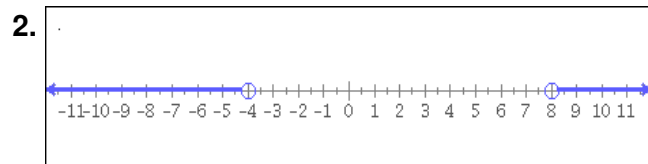
15. Solve the inequality for y

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

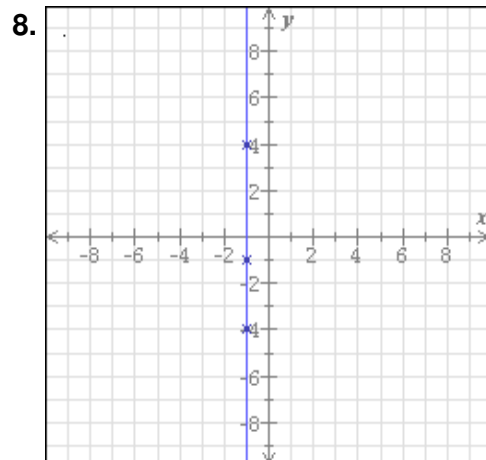
Simplify your answer as much as possible.

Final Prep Quiz 1 #1 Answers for class Beginning and Intermediate Algebra Combined / MATH 101 - Fall 2014 – 504

1. $(-9)^2 = 81$
 $(-4)^3 = -64$

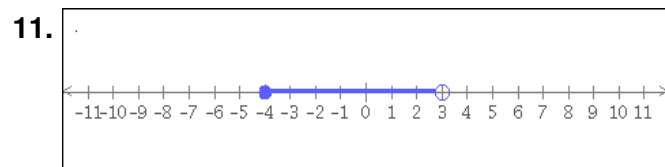


4. Desktop: \$2600
Laptop: \$2200
5. $m > 50$
6. First city: \$5750
Second city: \$7250
7. $60 = 4r$

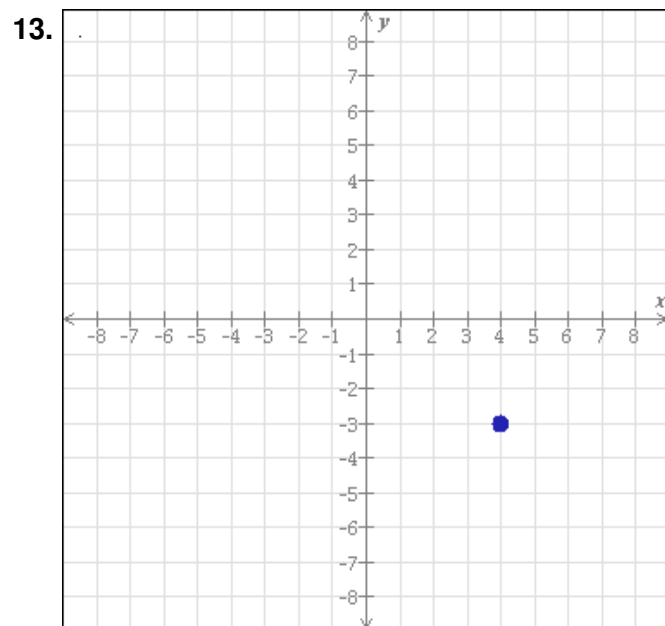


9. 76

10. 2477.4 pounds



12. $A \cup E = \{0, 1, 2, 3, 4, 6, 8\}$
 $A \cap E = \{2, 3\}$



14. $v = 18.7$

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