

Eastwood Academy HS  
Algebra 1 Summer Assignment

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Review the topics below and try to answer them on your own. *Show all work or reasoning for each question.* Some questions require less work than others. These should be familiar and will have been covered in your pre-algebra class. This assignment will ensure you have a strong start at the beginning of the school year. This will be due in class the first week of school and will be counted as a grade.

# Algebra 1 Summer Assignment

## Course Readiness Assessment

Choose the best answer for the problems.

1. A recreation park measures 560 m long by 700 m wide. A 250-m by 150-m area of the park is used for soccer and baseball fields. How much of the area remains?

2. How many feet of fencing is needed to fence in a 130 ft by 225 ft area?

3. Which is the best approximation for  $\sqrt{5}$ ?

- A 2.1
- B 2.2
- C 2.3
- D 2.5

4. Which number is closest to  $\sqrt{2}$ ?

- F 0.4
- G 1
- H 1.4
- J 1.5

5. A bakery produces 1450 muffins per day. About how many dozen muffins are produced in a 5-day work week?

6. Fran's store spent \$64,000 on expenses last year. Rent for the store was 35% of those expenses. How much did Fran spend on rent?

7. Which is equivalent to  $\sqrt{16}$ ?

8. What is the prime factorization of 300?

- F  $2^2 \cdot 5^3$
- G  $2^2 \cdot 3 \cdot 5^3$
- H  $2^2 \cdot 3 \cdot 5^2$
- J  $2 \cdot 3 \cdot 5^3$

## Course Readiness Assessment (continued)

9. The estimated population of Fiji in 2012 was about  $9 \times 10^5$ . The estimated population of Gibraltar in the same year was about  $3 \times 10^4$ . About how many times greater was the population of Fiji than Gibraltar?

A 3 times greater  
 B 10 times greater  
 C 30 times greater  
 D 300 times greater

10. A species of phytoplankton measures about  $2 \times 10^{-6}$  in. A grain of sand measures about  $1 \times 10^{-4}$  in. About how many times longer is the grain of sand than the phytoplankton?

F 20 times greater  
 G 50 times greater  
 H 100 times greater  
 J 200 times greater

11.  $\frac{3}{4} \times \frac{5}{6} =$

$\frac{3}{6} \times \frac{1}{4} =$

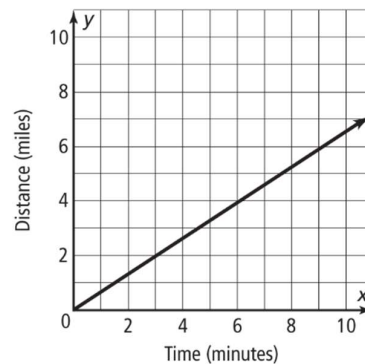
$\frac{1}{4} \div \frac{4}{7} =$

12.  $\frac{3}{6} + \frac{2}{4} =$

$\frac{3}{6} + \frac{1}{4} =$

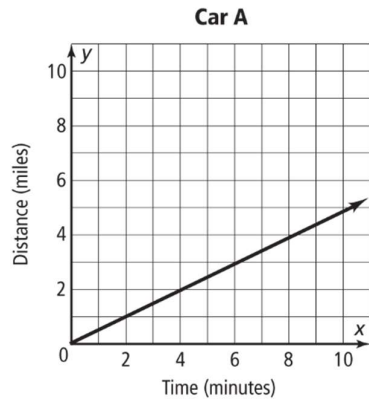
$\frac{5}{9} + \frac{5}{6} =$

13. What is the slope of the line shown below?



## Course Readiness Assessment (continued)

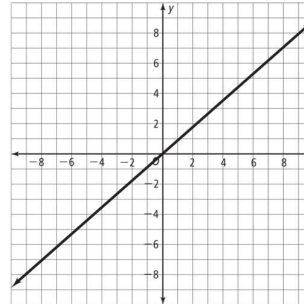
14. The speed of Car A is shown in the graph. The speed of Car B is shown in the table. Which car is traveling at the greater speed?



<b>Car B</b>	
<b>Distance (mi)</b>	<b>Time (hr)</b>
75	3
150	6
225	9
300	12

- F Car A  
 G Car B  
 H Both cars are traveling at the same rate.
15. Which proportion could be used to solve the following problem?
- The scale on a map is 1 in. = 50 mi. The distance between two cities is 425 mi. What is the distance on the map?
- A  $\frac{425}{x} = \frac{1}{50}$   
 B  $\frac{50}{x} = \frac{1}{425}$   
 C  $\frac{50}{1} = \frac{x}{425}$   
 D  $\frac{1}{50} = \frac{x}{425}$

16. What is the equation of the line?



- F  $y = -\frac{9}{10}x$   
 G  $y = -\frac{10}{9}x$   
 H  $y = \frac{9}{10}x$   
 J  $y = \frac{10}{9}x$
17. Which proportion could be used to solve the following problem?

A recipe for sesame chicken calls for  $\frac{1}{2}$  cup of chopped carrots. If the recipe is for 4 servings, how many cups of carrots are needed for 9 servings?

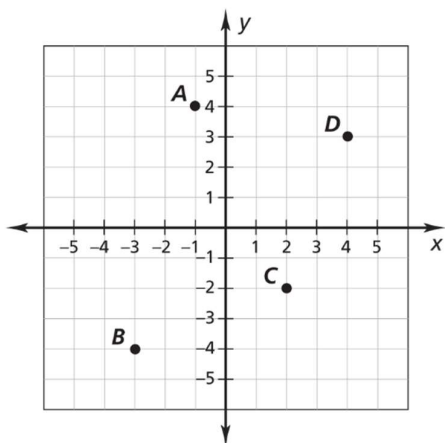
- A  $\frac{4}{x} = \frac{9}{0.5}$   
 B  $\frac{4}{x} = \frac{0.5}{9}$   
 C  $\frac{0.5}{1} = \frac{x}{9}$   
 D  $\frac{0.5}{4} = \frac{x}{9}$

## Course Readiness Assessment (continued)

18. What are the coordinates of:

Point A: \_\_\_\_\_ Point B: \_\_\_\_\_

Point C: \_\_\_\_\_ Point D: \_\_\_\_\_



19. The table shows the number of different colors of marbles a student found when he opened a bag.

Marble Colors	
Color	Number
Red	15
Purple	18
Yellow	12
Orange	16
Green	14

What is the probability that he will randomly pick up a yellow marble?

- A 25%
- B 20%
- C 16%
- D 12%

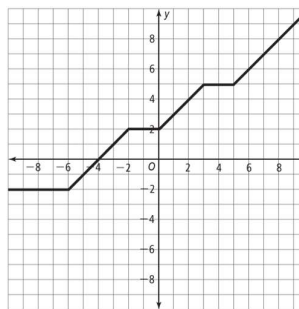
20. The formula for the circumference of a circle is  $C = \pi d$ . About how much farther will a bicycle with a 27-in. diameter wheel travel in one complete rotation than a bicycle with a 25-in. diameter wheel?

- F 2 in.
- G 6.28 in.
- H 12.56 in.
- J 325.57 in.

21. For 12 months, Jeanne has belonged to a book-of-the-month club. Jeanne has spent \$70.45 on the club. The first month, she paid the monthly fee and spent an additional \$10.45 on books. She has only paid the monthly fee since then. What are the initial value and the rate of change of this function?

- A initial value: 5; rate of change: 10.45
- B initial value: 10.45; rate of change: 60
- C initial value: 10.45; rate of change: 5
- D initial value: 15.45; rate of change: 70.45

22. Which statement about the graph is true?



- F The graph is linear and increasing.
- G The graph is linear and decreasing.
- H The graph is nonlinear and increasing.
- J The graph is nonlinear and decreases

**Course Readiness Assessment** (continued)

23. A right triangle has two legs of length 8 and 24 inches. What is the length of the hypotenuse?

24. Simplify the expressions below using order of operations.

$$(5^2 - 6^2) + 5(8 - 12 \div 3)$$

$$((-5)^2 + 4(12 + 3 \times 2^2))$$

25. Which rule describes the pattern?

$x$	$y$
5	14
3	10
1	6
-1	2

**F** Divide  $x$  by 4 and add 3.

**G** Multiply  $x$  by 2 and add 4.

**H** Add 9 to  $x$ .

**J** Multiply by 6.

26. Write 50% expressed as

A decimal:

A fraction:

27. Solve each of the following for  $x$ :

$$6x - 5 = 19$$

$$2x - 2 = -18 - 2x$$

$$7x - 13 = 5(x + 3)$$