

EOC Prep 1

Grade: 9-12
 Subject: Alg 2
 Date: 3/26/2012

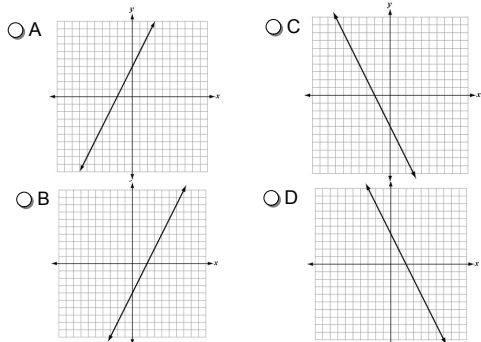
1. The table below gives the diameter of several bacteria cells.

Diameter of Bacteria Cells

Cell A	3.6×10^{-2}
Cell B	3.64×10^{-1}
Cell C	3.714×10^{-4}
Cell D	3.05×10^{-3}

- 1 Which cell has the smallest diameter?
 A Cell A C Cell C
 B Cell B D Cell D

- 2 Which graph represents the same pattern as $4x - 2y = -8$?



- 3 Jim had a goal of riding his bike for an average (mean) of 90 miles each week. The number of miles he rode each of the first four weeks were 87, 81, 92, and 95. Which value is the minimum number of miles he must ride during the fifth week to meet his goal?

- A 89 C 95
 B 91 D 102

- 4 Between $x = 0$ and $x = 1$, which function has a greater average rate of change than $y = 2^x$?

- A $y = 4^x$ C $y = 2^{x-4}$
 B $y = -2^x$ D $y = 2^x + 4$

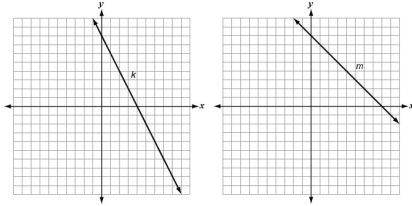
- 5 What is the value of y in the solution to the system?

$$\begin{cases} 4x - y = 4 \\ 6x - 5y = -1 \end{cases}$$

- A -2 C 2
 B 1.5 D 8

- 6 Rick found a T-shirt on sale for 40% off the clearance price. The clearance price was already 25% off the original price. The original price was \$32.00. How much did Rick pay for the shirt if there is a tax rate of 7.25%?
- A \$11.20 C \$14.40
 B \$12.01 D \$15.44
- 7 What are the solutions of ? $x^2 - 6x = -21$
- A $x = 3 \pm \sqrt{30}$ C $x = -3 \pm 2i\sqrt{3}$
 B $x = 3 \pm 2i\sqrt{3}$ D $x = -3 \pm i\sqrt{30}$
- 8 The TV weather forecaster announces that one location has a 45% chance of rain tomorrow and a 10% chance of snow. What is the probability that it will rain or snow tomorrow in this location?
- A 9/200 C 9/20
 B 7/20 D 11/20
- 9 Which expression shows the complete factorization of ?
 $8ax^2 + 14ax - 15a$
- A $a(4x+3)(2x-5)$ C $a(8x+3)(x-5)$
 B $(8x+3)(x-5)$ D $a(4x-3)(2x+5)$
- 10 After viewing the test scores of an Algebra II class, Ms. Dorsey decided to grade students based on the median score and the variability of the scores. Which graph would best help her decide how to grade the students?
- A box-and-whisker plot
 B frequency table
 C stem-and-leaf
 D line plot
- 11 What is the solution to ?
 $4(3x - 6) + 16 < -32$
- A $x < -2$ C $x < 3.5$
 B $x > -2$ D $x > -3.5$

12 In the graphs below, how is line m different from line k?



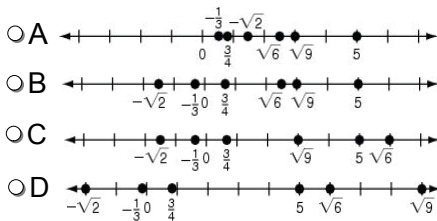
- A The slope is steeper, and it has a greater x-intercept.
- B The slope is steeper, and it has a greater y-intercept.
- C The slope is less steep, and it has a greater x-intercept.
- D The slope is less steep, and it has a greater y-intercept.

13 What is the mean of the data below after the outlier is removed from the set?
 {73, 85, 70, 86, 75, 90, 23, 74}

- A 69 C 75
- B 72 D 79

14 Melanie needs to graph this set of numbers on a number line. Which number line shows the set graphed correctly?

$$\left\{ \sqrt{9}, \frac{3}{4}, -\frac{1}{3}, 5, -\sqrt{2}, \sqrt{6} \right\}$$



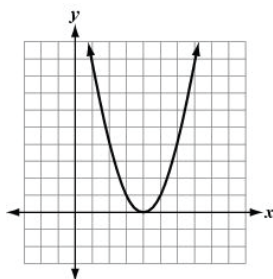
15 Which expression is the simplified form of ?

$$\left(\frac{6x^{-4}y^3}{2x^{-1}y^3} \right)^2$$

- A $\frac{6}{x^6}$ C $\frac{9}{x^{10}}$
- B $\frac{9}{x^6}$ D $3x^{15}$

16 Which function is represented by the graph below?

- A $y = (x - 4)^4$
- B $y = |x - 4|$
- C $y = x^2 - 4$
- D $y = (x - 4)^2$



17 A fair coin is tossed, and a six-sided number cube is rolled. How many different outcomes are possible?

- A 2 C 12
- B 8 D 36

18 The first 5 terms of a sequence are -3, 0, 6, 18 and 42. What is the eighth term of this sequence?

- A 90 C 186
 B 114 D 378

19 Marge wants to build a sidewalk of uniform width around a rectangular swimming pool that is 100 feet long and 60 feet wide. She has 1,700 square feet of concrete to create the sidewalk. (Area = lw) What should be the width of the sidewalk?

- A 5 feet
 B 6 feet
 C 8 feet
 D 10 feet

