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Assessment: Digital SAT (Math)

1 A food truck sells salads for $6.50 each and drinks for $2.00 each. The food truck's revenue from selling a total of 209 salads and drinks in one day was $836.50. How many salads were sold that day?

A)77

B)93

C)99

D)105

2 Wyatt can husk at least 12 dozen ears of corn per hour and atmost 18 dozen ears of corn per hour. Based on this information, what is a possible amount of time, in hours, that it could take Wyatt to husk 72 dozen ears of corn?

3 1/2(2x+5)=21/2

y=2x

The system of equations above has solution (x, y). What is the value of x ?

4 The Downtown Business Association (DBA) in a certain city plans to increase its membership by a total of n businesses per year. There were b businesses in the DBA at the beginning of this year. Which function best models the total number of businesses, y, the DBA plans to have as members x years from now?

A) y = nx + b

B) y = nx − b

C) y = b(n)^x

D) y = n(b)^x

5 y x ≤ 3 +1

x- y>1

Which of the following ordered pairs (x, y) satisfies the system of inequalities above?

A) (−2, −1)

B) (−1, 3)

C) (1, 5)

D) (2, −1)

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6 y=a(x-2)(x+4) In the quadratic equation above, a is a non-zero constant. The graph of the equation in the xy-plane is a parabola with vertex (c, d). Which of the following is equal to d?

A)-9a

B)−8a

C)-5a

D)-2a

7 In a circle with center O, central angle AOB has a measure of 5π/4 radians. The area of the sector formed by central angle AOB is what fraction of the area of the circle?

8 The total area of a coastal city is 92.1 square miles, of which 11.3 square miles is water. If the city had a population of 621,000 people in the year 2010, which of the following is closest to the population density, in people per square mile of land area, of the city at that time?

A) 6,740

B) 7,690

C) 55,000

D) 76,000

9 The function h, defined by h(t) = at + b , where a and b are constants, models the height, in centimeters, of the sunflower after t days of growth during a time period in which the growth is approximately linear. What does a represent?

A) The predicted number of centimeters the sunflower grows each day during the period

B) The predicted height, in centimeters, of the sunflower at the beginning of the period

C) The predicted height, in centimeters, of the sunflower at the end of the period

D) The predicted total increase in the height of the sunflower, in centimeters, during the period.

10. As part of an experiment, a ball was dropped and allowed to bounce repeatedly off the ground until it came to rest. The graph above represents the relationship between the time elapsed after the ball was dropped and the height of the ball above the ground. After it was dropped, how many times was the ball at a height of 2 feet?

A) One

B) Two

C) Three

D) Four