Student Name _____

New Jersey Assessment of Skills & Knowledge 2007

NJ ASK

Grade 7

Language Arts Literacy/ Mathematics

Assessment Samples

NJ ASK 2007 Grade 7 Assessment Samples

1 Vanna calculates that 32% of her compact discs fall into the classical music category. About what fraction of her compact discs are classical music?

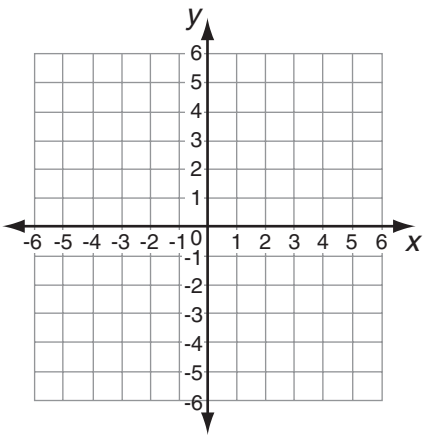
A. $\frac{1}{3}$

B. $\frac{1}{2}$

C. $\frac{2}{3}$

D. $\frac{3}{2}$

2 Using a coordinate grid like the one below, treasure hunters mapped the locations of four shipwrecks in a lake. The wrecks are at (0, –3), (2, 0), (–1, 3), and (–5, 2).



If the points on the grid are connected in order, which geometric shape will be formed?

A. pentagon

B. rectangle

C. rhombus

D. trapezoid

3 Millicent's age in years is twice the sum of her sister's age and 3. If x represents her sister's age, which expression could be used for Millicent's age?

A. $2x + 3$

B. $2x - 3$

C. $2(x + 3)$

D. $3(x + 2)$

4 Samuel has a bowl of fruit containing 3 apples, 2 oranges, and 5 pears. If he randomly picks 1 piece of fruit from the bowl, what is the probability it will be a pear?

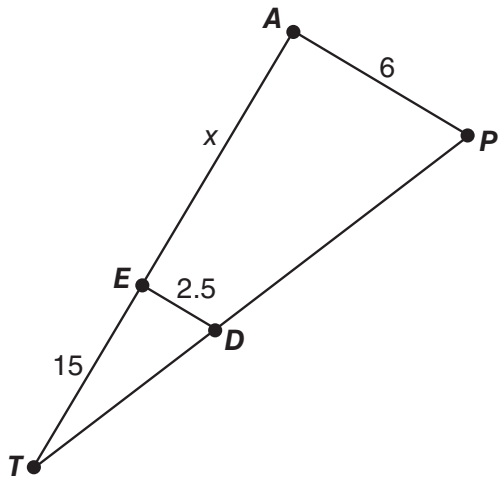
A. 71%

B. 50%

C. 33%

D. 20%

5 Natalie drew this figure on a piece of paper.



If *TAP* ~ *TED*, what is the value of x?
(Note: This figure is not drawn to scale.)

A. 36

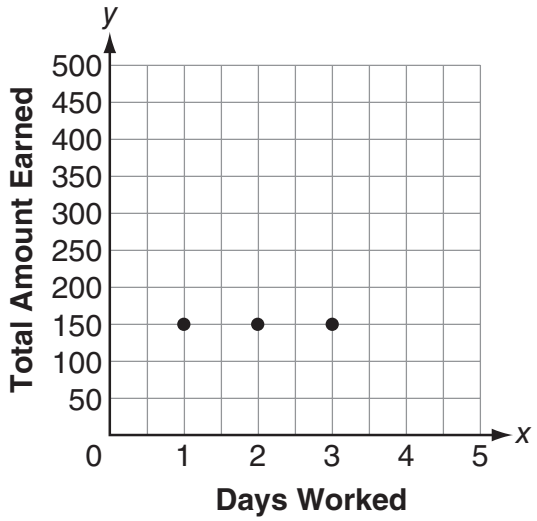
B. 24

C. 21

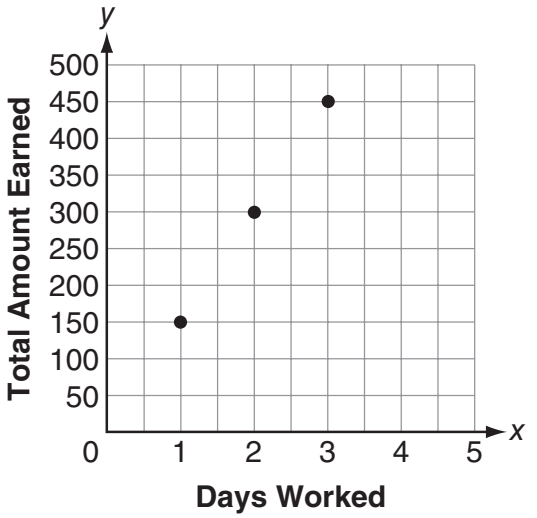
D. 15

6 Mark, a security guard, paid a fingerprinting and application fee of $50 to work 3 days at a local carnival. The carnival will pay him $150 per day. Which graph represents how much Mark can earn on the carnival job minus the fingerprinting and application fee?

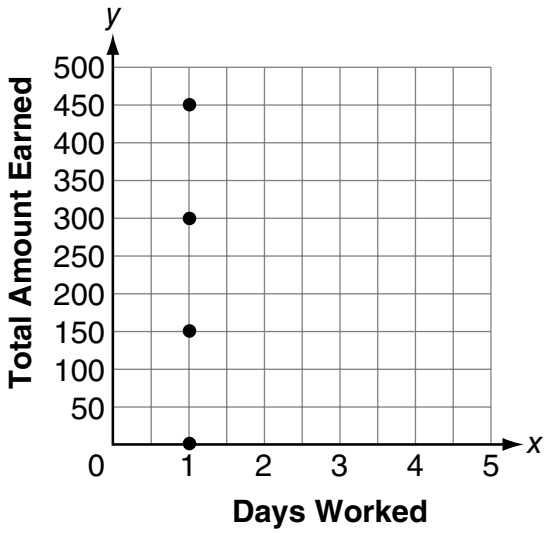
A.



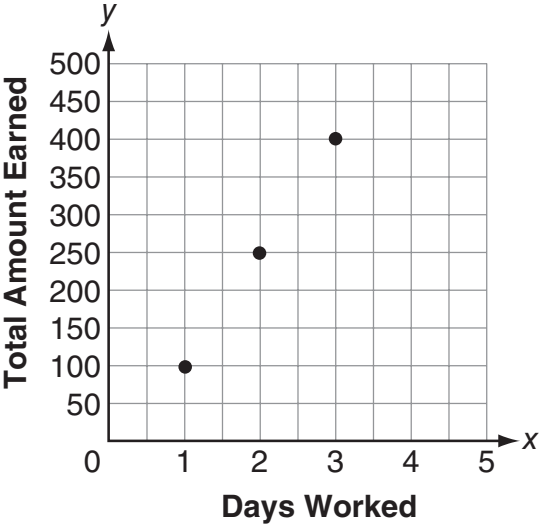
C.



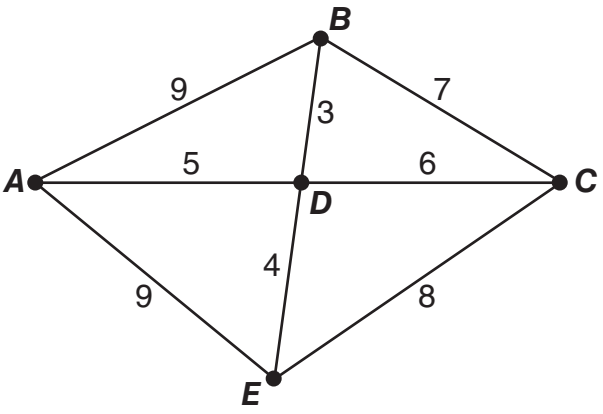
B.



D.



7 A truck driver must drive to cities *A*, *B*, *C*, *D*, and *E*, as shown below, by traveling the shortest distance possible and not visiting the same city twice.



If the driver can start at any city, how far will he drive? (Note: The numbers on the map represent miles.)

A. 21 miles

B. 22 miles

C. 23 miles

D. 24 miles

8 Mr. Johnson and his students are playing a math game that uses the order of operations. To play the game, Mr. Johnson gives his students 5 numbers. Using the order of operations, each student takes these numbers and makes them equal a number that Mr. Johnson chooses. Today, the numbers for the game are 4, 6, 8, 12, and 15. Using these numbers only once, the students are to create an expression that equals 11. Which student expression wins today's game?

A. $15 - \frac{12}{4} - (8 - 6)$

B. $6 + 4 \times 8 - 15 - 12$

C. $8 - 6 \times 4 + 15 - 12$

D. $\frac{12 - 4}{8} + 15 - 6$

9 A restaurant had a total of T identical tables. The maximum number of customers, C, who could be served at one time was given by the formula $C = 4T$. The manager has changed the restaurant so that the maximum number of customers who can be served at one time is now given by the formula $C = 6T$. If the number of tables is the same, how has the restaurant been changed?

A. The maximum number of customers at each table has been increased by 2.

B. The maximum number of customers at each table has been increased by 6.

C. The maximum number of customers who can be served at one time has been increased by 2.

D. The maximum number of customers who can be served at one time has been increased by 6.

10 Mr. Hernandez wants to tile his patio with rectangular tiles, each measuring 3 inches by 4 inches. Which of the following represents the least number of tiles he can use if the patio is a square measuring 3 feet on each side?

A. 36

B. 72

C. 108

D. 144

11 Cori rides her bicycle for exercise. She rode 0.72 mile on Saturday and 0.85 mile on Sunday. About what portion of a mile did Cori ride on Saturday?

A. 85%

B. $\frac{2}{7}$

C. $\frac{17}{20}$

D. $\frac{3}{4}$

12 Four friends are playing a game with 4 different spinners. Sam has a spinner with 3 equal sections numbered 1–3. Ricki has a spinner with 5 equal sections numbered 1–5. Jesse has a spinner with 6 equal sections numbered 1–6. Frederick has a spinner with 8 equal sections numbered 1–8. Everyone spins at the same time. The scoring is 10 points for an odd number and 5 points for an even number. Who has the best chance of getting the highest score?

A. Sam

B. Ricki

C. Jesse

D. Frederick

13 Janine is preparing to paint her kitchen. Before purchasing paint, she measures each wall to calculate its area. Which unit of measurement is most appropriate to use for determining the area of her kitchen walls?

A. ft

B. ft^2

C. yd

D. yd^3

14 A self-counting sequence has 1 copy of 1, 2 copies of 2, and so on, as shown.

{1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5 . . . }

What is the 30th term in this self-counting sequence?

A. 6

B. 7

C. 8

D. 9

15 Alexander's Toy Shop has a window display of various action figures. As Tony looks at this window display, he notices that the action figures come in 2 different sizes, 2 different genders, 2 different skin tones, 2 different hair colors, and 2 different outfits. If there are 2^5 combinations of action figures, what is the maximum number of different action figures that could appear in the window display?

A. 5

B. 10

C. 25

D. 32

---

16 Maria is on a tour and wants to visit historic cities at Points *X*, *W*, *F*, and *V*, which are shown on the map below.

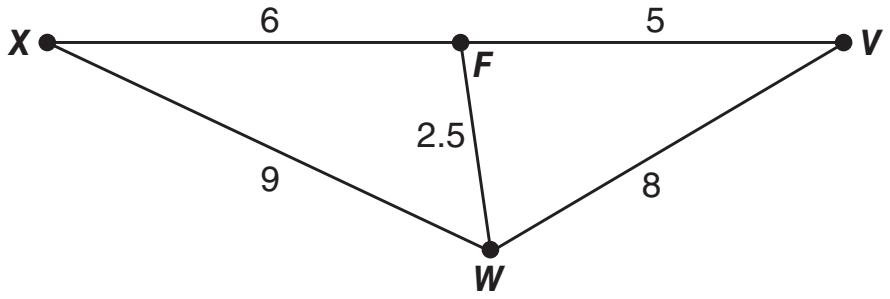


Figure is not drawn to scale.

How many miles will she travel if she visits each city and completes her total trip in the shortest distance possible? (Note: The numbers on the map represent kilometers.)

A. 15.5 km

B. 16 km

C. 16.5 km

D. 17 km

17 Ted is going to run a short marathon. The length of the racecourse is 2,100 meters. When Ted runs, he travels about 70 centimeters with each step. How many steps will Ted take during the race?

A. 30

B. 300

C. 3,000

D. 30,000

18 Phyllis put $1,000 in the bank and received 10% in compound interest at the end of the year. Now she has $1,100. Which formula describes how much she will have at the end of next year?

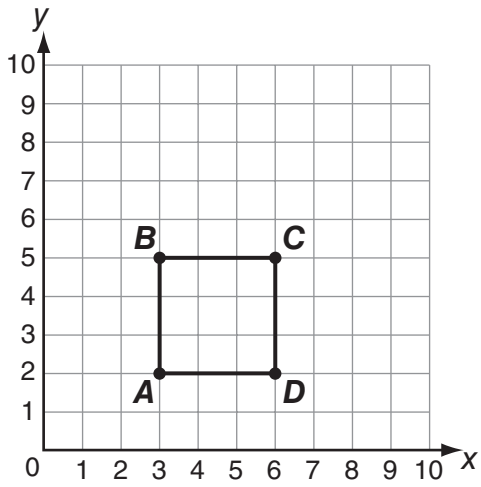
A. next = now + 100

B. now = next × 1.10

C. next = now + 1,000

D. next = now × 1.10

19 Armen goes camping twice a year. Planning ahead, Armen graphed where he will pitch the tent on his next camping trip. The four corners of the tent are labeled *A*, *B*, *C*, and *D* on the coordinate grid below.



Which ordered pair represents the coordinates of Point *A* if Armen decides to translate the base of the tent down 3 units?

A. (3, –1)

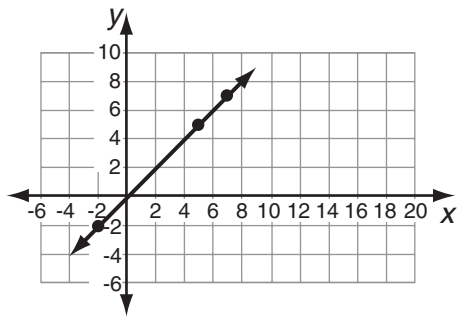
B. (–1, 3)

C. (3, 5)

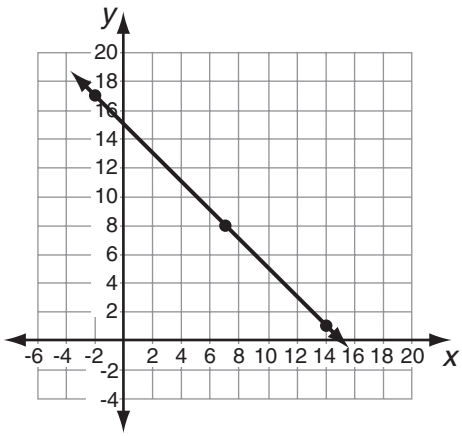
D. (0, 2)

20 The sum of two numbers is 16, as shown by the equation $x + y = 16$. Which graph best represents this equation?

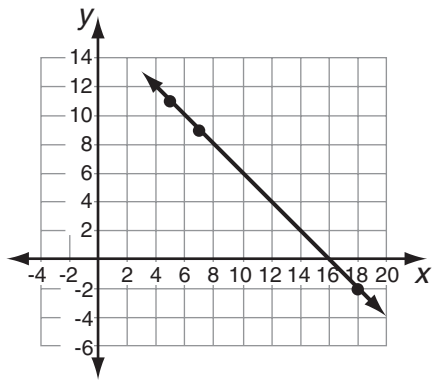
A.



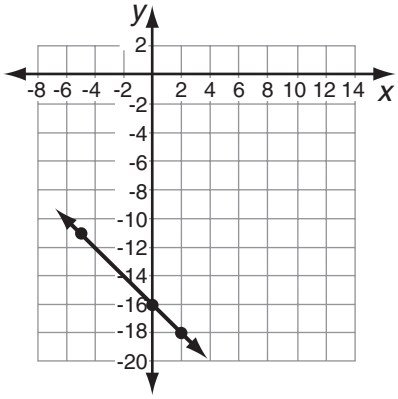
C.



B.



D.



---

21 Rodney has 4 different sports posters for his room, all of which are framed. He wants to hang only 3 of the posters at any one time. How many different ways can Rodney hang the posters?

A. 7

B. 10

C. 12

D. 24

22 Julia is filling balloons with air. If 6.25% of the balloons burst from too much air, which fraction of the balloons burst?

A. $\frac{1}{16}$

B. $\frac{5}{8}$

C. $6\frac{1}{4}$

D. $62\frac{1}{2}$

23 Jenny wrote the following expression in her notebook.

$$(-7) \cdot (-7) \cdot (-7) \cdot (-7) \cdot y \cdot y + 3 \cdot 3 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot 5 \cdot x \cdot x$$

Part A
What is the value of the expression if $x = 1$ and $y = 2$? Show all your work.

Part B
Show how Jenny can correctly rewrite this expression using exponents. Explain why the value of the expression can never be negative.

Part C
Rewrite the following expression as the product of 3 prime numbers with exponents.

$$625 \cdot 64 \cdot 243$$

CLOSE YOUR TEST BOOKLET.