

# Test, Form 2A

Write the letter for the correct answer in the blank at the right of each question.

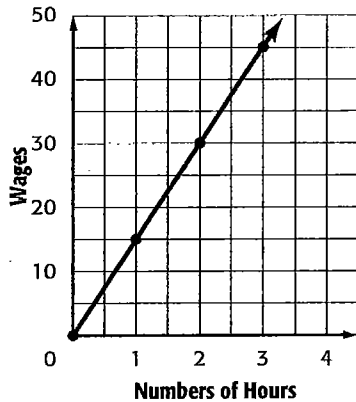
1. What is the constant rate of change of the table below?

<b>Seconds</b>	10	20	30	40
<b>Meters</b>	40	80	120	160

- A. 2 meters per second      C. 8 meters per second  
 B. 4 meters per second      D. 10 meters per second

1. \_\_\_\_\_

2. What is the slope of the line?



- F. 15      H. 25  
 G. 18      I. 30

2. \_\_\_\_\_

3. Selena babysits on the weekends. The equation  $y = 12x$  represents the amount of money she earns. What is the constant of proportionality?

- A. 1      C. 12  
 B. 6      D. 24

3. \_\_\_\_\_

4. What is the solution of the proportion  $\frac{22}{11} = \frac{r}{13}$ ?

- F. 26      G. 18      H. 6.5      I. 3.18

4. \_\_\_\_\_

5. Which size can of soup shown in the table has the lowest unit price?

- A. 10 oz      C. 18 oz  
 B. 15 oz      D. 32 oz

Size (oz)	Cost (\$)
10	0.79
15	1.29
18	2.16
32	3.19

5. \_\_\_\_\_

6. Cyclists were  $\frac{3}{4}$  finished with their ride when they reached the 18-kilometer mark. How long was their ride?

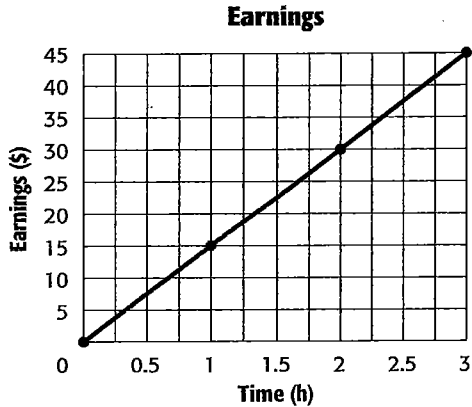
- F. 6 km      G. 12 km      H. 18 km      I. 24 km

6. \_\_\_\_\_

**Test, Form 2A** (continued)

7. A fox can run at a speed of 42 miles per hour. How many feet per second is this?  
 A. 42 ft/s      B. 1,232 ft/s      C. 61.6 ft/s      D. 3,696 ft/s      7. \_\_\_\_\_

8. The graph shows the amount of money Joe earns each hour he works. Which statement about the graph is *not* true?



- F. The graph shows a proportional relationship.  
 G. The graph shows a nonproportional relationship.  
 H. The unit rate is  $\frac{\$15}{\text{hour}}$ .  
 I. The line is straight.      8. \_\_\_\_\_

9. The table shows the cost for ordering a certain number of pieces of chicken. What is the value of  $x$  if the cost is proportional to the number of chicken pieces ordered?      9. \_\_\_\_\_

Pieces of Chicken Ordered	2	3	4	6
Cost	\$3.00	\$4.50	\$6.00	$x$

10. If it takes 4 gallons of gas to drive 92 miles, how many miles can be driven using 6 gallons of gas?      10. \_\_\_\_\_

11. Martin can travel 174 miles in 3 hours. At this rate, how far can he travel in 7 hours?      11. \_\_\_\_\_

12. Bart can type 296 words in 8 minutes. At this rate, how many words can he type in 20 minutes?      12. \_\_\_\_\_

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**Test, Form 2A**

Write the letter for the correct answer in the blank at the right of each question.

1. What is 25% of 40?  
 A. 5                      B. 10                      C. 20                      D. 50                      1. \_\_\_\_\_
2. What is 115% of 80?  
 F. 12                      G. 15                      H. 85                      I. 92                      2. \_\_\_\_\_
3. 8% of 70 is what number?  
 A. 5.6                      B. 10.4                      C. 15.1                      D. 78                      3. \_\_\_\_\_
4. Angela made 90% of the 50 free throws she attempted. How many free throws did Angela make?  
 F. 10                      G. 27                      H. 41                      I. 45                      4. \_\_\_\_\_

Which is the best estimate for each of the following?

5. 26% of 44  
 A. 5                      B. 11                      C. 18                      D. 21                      5. \_\_\_\_\_
6. 0.5% of 600  
 F. 1.4                      G. 2.5                      H. 3                      I. 6                      6. \_\_\_\_\_

Which equation and solution represents each situation?

7. What number is 32% of 79?  
 A.  $n = 32 \cdot 79$ ; 2,528  
 B.  $32 = n \cdot 79$ ; 0.4  
 C.  $79 = n \cdot 0.32$ ; 246.9  
 D.  $n = 0.32 \cdot 79$ ; 25.3                      7. \_\_\_\_\_
8. 10% of what number is 30?  
 F.  $n = 0.1 \cdot 30$ ; 3  
 G.  $30 = n \cdot 10$ ; 3  
 H.  $30 = 0.1 \cdot n$ ; 300  
 I.  $n = 30 \cdot 1.0$ ; 30                      8. \_\_\_\_\_
9. What number is 64% of 120?  
 A.  $n = 64 \cdot 120$ ; 7,680  
 B.  $64 = n \cdot 120$ ; 0.5  
 C.  $n = 0.64 \cdot 120$ ; 76.8  
 D.  $n = 1.20 \cdot 0.64$ ; 0.8                      9. \_\_\_\_\_

**Test, Form 2A** (continued)

SCORE \_\_\_\_\_

10. While eating lunch, Zeshon ate 75% of the carrots he had in his bag. There were 12 carrots in his bag. How many carrots did Zeshon eat?

F. 6                  G. 9                  H. 10                  I. 12

10. \_\_\_\_\_

11. Melinda ate breakfast and wanted to leave her waitress a 20% tip. Her meal cost \$7.50. How much money should Melinda leave for the tip?

11. \_\_\_\_\_

**Find each percent of change. Round to the nearest whole percent if necessary. State whether the percent of change is an *increase* or *decrease*.**

12. Zach bought a pair of jeans for \$54. The next week he noticed that the price for the same pair of jeans was now \$74. Find the percent of change.

12. \_\_\_\_\_

13. 40 to 25

13. \_\_\_\_\_

14. 120 to 140

14. \_\_\_\_\_

**Find the simple interest paid to the nearest cent for each principal, interest rate, and time.**

15. \$250, 3.4%, 3 years

15. \_\_\_\_\_

16. \$570, 2%, 4 years

16. \_\_\_\_\_

17. Darin bought a new pair of soccer cleats for \$59.99. The sales tax is 6.5%. What is the total cost that Darin will pay?

17. \_\_\_\_\_

18. Mr. Martin bought a microwave that was originally priced at \$225. He received a 30% discount. What is the sale price of the microwave?

18. \_\_\_\_\_

19. Yancy got his hair cut for \$16. He left a 15% tip for the barber. What is the total amount of money Yancy paid?

19. \_\_\_\_\_

**Test, Form 2A**

Write the letter for the correct answer in the blank at the right of each question.

1. Use the Distributive Property to write  $2(-5 + 3)$  as an equivalent expression. What is the value of the expression?  
A.  $2(8)$ ; 16                      C.  $2(-5) + 2(3)$ ;  $-4$   
B.  $2(-5) + 3$ ; 13                D.  $(5 + 3)2$ ; 16                      1. \_\_\_\_\_
  
2. Add  $(-x + 4) + (3x + 2)$ .  
F.  $2x + 6$       G.  $2x + 2$       H.  $8x + 6$       I.  $4x + 6$                       2. \_\_\_\_\_
  
3. Subtract  $(-x - 2) - (4x + 3)$ .  
A.  $3x - 1$       B.  $-5x - 5$       C.  $-5x - 2$       D.  $3x - 2$                       3. \_\_\_\_\_
  
4. What is the value of  $-4(9 + 6)$ ?  
F. 60      G. 30      H.  $-30$       I.  $-60$                       4. \_\_\_\_\_
  
5. What is the value of  $9 + 2(5 - 3) - 6$ ?  
A. 1      B. 7      C. 9      D. 13                      5. \_\_\_\_\_
  
6. Simplify  $4x + 8 + 2x - 7$ .  
F.  $6x + 15$       G.  $6x - 1$       H.  $6x + 1$       I.  $2x + 1$                       6. \_\_\_\_\_
  
7. What is the value of  $5a + 7b$  if  $a = 4$  and  $b = 3$ ?  
A. 41      B. 12      C. 43      D. 35                      7. \_\_\_\_\_

**Test, Form 2A** (continued)

8. What are the next three terms in the sequence 15, 26, 37, 48, ...?  
F. 57, 66, 75                      H. 58, 68, 78  
G. 58, 69, 70                      I. 59, 70, 81
8. \_\_\_\_\_
9. What are the next three terms in the sequence 1.0, 2.5, 4.0, 5.5, ...?  
A. 7.5, 8.0, 10.5                      C. 7.0, 8.5, 10.0  
B. 7.0, 9.5, 11.0                      D. 6.0, 7.5, 8.0
9. \_\_\_\_\_
10. What is the value of  $6d - 2c$  if  $d = 3$  and  $c = 4$ ?  
F. 10                      G. 12                      H. 14                      I. 16
10. \_\_\_\_\_
11. Evaluate  $\frac{9r}{s}$  if  $r = 6$  and  $s = 3$ .
11. \_\_\_\_\_
12. Name the property of multiplication shown the equation  $(3 \cdot x) \cdot 8 = 3 \cdot (x \cdot 8)$ .
12. \_\_\_\_\_
13. The area of a rectangular pool is  $(15x - 9)$  square units. Factor  $15x - 9$  to find possible dimensions of the pool.
13. \_\_\_\_\_
14. Two friends bought a \$14 pizza. Each person bought their own drink. The total cost of the food can be represented by the expression  $\$2x + \$14$ . What expression represents the cost of food for one person?
14. \_\_\_\_\_

**Test, Form 2A**

Write the letter for the correct answer in the blank at the right of each question.

1. Edwin's mother is 57 years old. Her age is three years more than twice Edwin's age. What is Edwin's age?  
 A. 30 years    B. 27 years    C. 15 years    D. 37 years    1. \_\_\_\_\_
2. In a basketball game, Benito scored 3 points less than twice the number of points Carnell scored. Carnell scored 8 points. How many points did Benito score?  
 F. 5 points    G. 11 points    H. 13 points    I. 16 points    2. \_\_\_\_\_

What is the solution of each equation?

3.  $t + 16 = 7$   
 A. -23    B. -9    C. 9    D. 23    3. \_\_\_\_\_
4.  $\frac{w}{4} = -11$   
 F. -44    G. -7    H. 7    I. 44    4. \_\_\_\_\_
5.  $81 = 3k$   
 A. 27    B. 78    C. 84    D. 243    5. \_\_\_\_\_
6.  $-8 + \frac{5}{6}x = -28$   
 F. -24    G. -20    H. -4    I. 24    6. \_\_\_\_\_
7.  $\frac{1}{2}z = 9\frac{1}{4}$   
 A.  $4\frac{5}{8}$     B.  $9\frac{1}{8}$     C.  $18\frac{1}{4}$     D.  $18\frac{1}{2}$     7. \_\_\_\_\_
8.  $37 = 18q + 1$   
 F. 0.5    G. 2    H. 12    I. 19    8. \_\_\_\_\_
9.  $2y - 1.7 = 3.3$   
 A. 0.8    B. 2.5    C. 3.2    D. 10    9. \_\_\_\_\_
10. The length of each side of a square was decreased by 2 inches, so the perimeter is now 48 inches. What was the original length of each side of the square?  
 F. 10 in.    G. 12 in.    H. 14 in.    I. 16 in.    10. \_\_\_\_\_

# Test, Form 2A *(continued)*

SCORE \_\_\_\_\_

What is an equivalent equation for each given equation?

11.  $4x + 11 = 15$

A.  $4x = 26$

C.  $15 = -11 - 4x$

B.  $-4x + 11 = -15$

D.  $4x = 4$

11. \_\_\_\_\_

12.  $3(x - 9) = 3$

F.  $3x - 9 = 3$

H.  $x - 9 = 1$

G.  $3x - 9 = 9$

I.  $x - 9 = 9$

12. \_\_\_\_\_

Solve each equation. Check your solution.

13.  $0.3a = 51$

13. \_\_\_\_\_

14.  $\frac{z}{5.2} = 16$

14. \_\_\_\_\_

15.  $-11 = x + 5$

15. \_\_\_\_\_

16.  $3j = 2.7$

16. \_\_\_\_\_

17.  $\frac{x}{8} - 2 = -3$

17. \_\_\_\_\_

18.  $-0.4(x - 3.8) = -2$

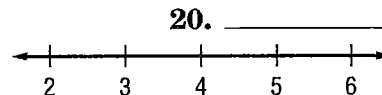
18. \_\_\_\_\_

19. Each deli sandwich made uses  $\frac{1}{4}$  pound of turkey. Tyler started with  $3\frac{7}{8}$  pounds of turkey and now has  $1\frac{5}{8}$  pounds left. How many deli sandwiches did he make?

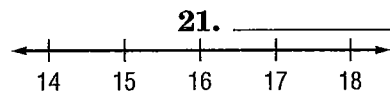
19. \_\_\_\_\_

Solve each inequality. Graph the solution on a number line.

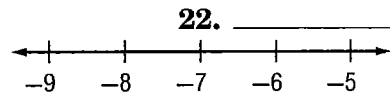
20.  $x + 7 \leq 11$



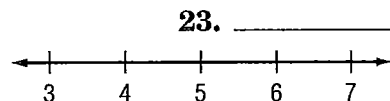
21.  $m - 4 > 12$



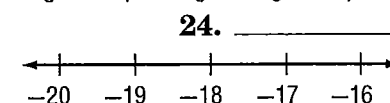
22.  $3p \geq -24$



23.  $-2w + 5 < -5$



24.  $\frac{h}{-6} > 3$



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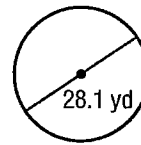


# Test, Form 2A

Write the letter for the correct answer in the blank at the right of each question.

1. What is the circumference of the circle? Use 3.14 for  $\pi$ . Round to the nearest tenth.

- A. 31.2 yd                      C. 88.2 yd  
 B. 44.1 yd                      D. 176.5 yd



1. \_\_\_\_\_

2. To the nearest tenth, what is the circumference of a bicycle tire with a radius of 11 inches? Use 3.14 for  $\pi$ .

- F. 34.5 in.      G. 17.3 in.      H. 69.1 in.      I. 95 in.

2. \_\_\_\_\_

3. What is the area of the circle? Round to the nearest tenth. Use 3.14 for  $\pi$ .

- A. 1,017.4 mm<sup>2</sup>                      C. 56.5 mm<sup>2</sup>  
 B. 254.3 mm<sup>2</sup>                      D. 28.3 mm<sup>2</sup>



3. \_\_\_\_\_

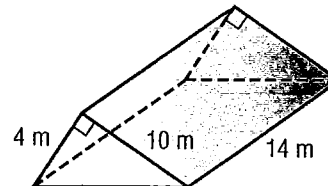
4. A rectangular trunk has a volume of 26,880 cubic inches. The trunk is 4 feet long by 28 inches wide. What is the trunk's height?

- F. 20 in.      G. 60 in.      H. 240 in.      I. 2,880 in.

4. \_\_\_\_\_

5. What is the volume of the right triangular prism?

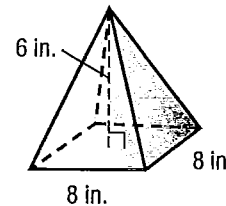
- A. 93.3 m<sup>3</sup>                      C. 280 m<sup>3</sup>  
 B. 140.3 m<sup>3</sup>                      D. 560 m<sup>3</sup>



5. \_\_\_\_\_

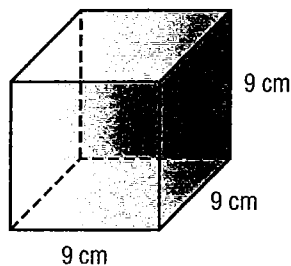
6. What is the volume of the square pyramid?

- F. 384 in<sup>3</sup>                      H. 132 in<sup>3</sup>  
 G. 192 in<sup>3</sup>                      I. 128 in<sup>3</sup>



6. \_\_\_\_\_

7. What is the surface area of the cube?

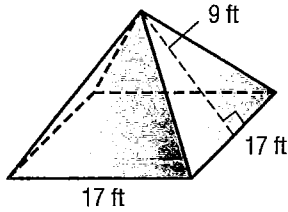


- A. 243 cm<sup>2</sup>                      C. 486 cm<sup>2</sup>  
 B. 364.5 cm<sup>2</sup>                      D. 729 cm<sup>2</sup>

7. \_\_\_\_\_

**Test, Form 2A** (continued)

8. What is the surface area of the square pyramid?



F.  $595 \text{ ft}^2$

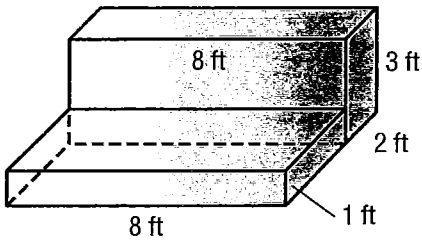
H.  $867 \text{ ft}^2$

G.  $612 \text{ ft}^2$

I.  $901 \text{ ft}^2$

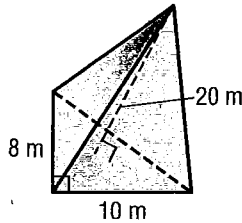
8. \_\_\_\_\_

9. Find the surface area and volume of the composite figure.



9. \_\_\_\_\_

10. What is the volume of the triangular pyramid? Round to the nearest tenth if necessary.

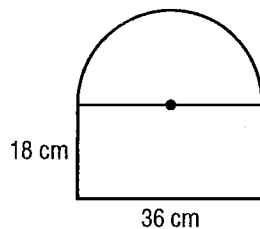


10. \_\_\_\_\_

11. What is the best approximation for the area of a semicircle with a diameter of 12.5 ft? Use 3.14 for  $\pi$ .

11. \_\_\_\_\_

12. What is the area of the figure? Round to the nearest tenth if necessary. Use 3.14 for  $\pi$ .



12. \_\_\_\_\_

**Test, Form 2A**

Write the letter for the correct answer in the blank at the right of each question.

For Exercises 1 and 2, what would be the total number of outcomes in each sample space?

1. choosing coffee or tea; with cream, milk, or honey; served in a glass or a plastic cup

A. 6                      B. 7                      C. 12                      D. 24

1. \_\_\_\_\_

2. picking a number from 1 to 20 and a letter from the alphabet

F. 520                      G. 260                      H. 46                      I. 4

2. \_\_\_\_\_

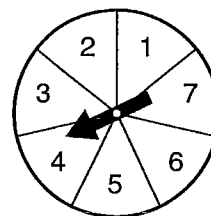
3. What is  $P(6, \text{ then } 6)$  when spinning the spinner shown at the right twice?

A.  $\frac{1}{49}$

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

B.  $\frac{1}{21}$

D.  $\frac{1}{10}$



3. \_\_\_\_\_

4. Dana has nine pairs of shoes. She wants to organize them in her closet so that they are placed in a row. In how many different ways can Dana arrange nine pairs of shoes in a row? The pairs will not be separated.

F. 362,880                      G. 45,360                      H. 6,480                      I. 1,080

4. \_\_\_\_\_

5. Coach Fraser will select a captain and a co-captain from the students in her physical education class. If there are 22 students from which to select, how many different outcomes are possible?

A. 484                      B. 462                      C. 44                      D. 22

5. \_\_\_\_\_

6. Martin has four books. In how many ways can he arrange them on his bookshelf?

F. 27                      G. 24                      H. 12                      I. 4

6. \_\_\_\_\_

7. Renee tossed 12 heads when tossing a coin 18 times. What is the experimental probability of tossing heads?

A. about 0.33    B.  $\frac{2}{5}$                       C.  $\frac{2}{3}$                       D. 60%

7. \_\_\_\_\_

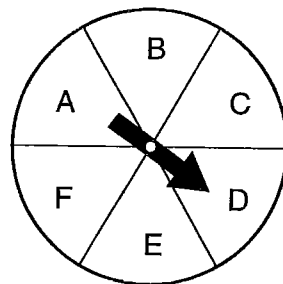
# Test, Form 2A *(continued)*

SCORE \_\_\_\_\_

**For Exercises 8 and 9, a bag contains 1 red, 2 blue, 4 orange, and 3 purple marbles. A marble is drawn and not replaced. Then a second marble is drawn.**

8. What is  $P(\text{purple, then purple})$ ?  
 F.  $\frac{1}{15}$       G.  $\frac{1}{9}$       H. about 33%      I. 0.09      8. \_\_\_\_\_
9. What is  $P(\text{red, then orange})$ ?  
 A. 0.04      B.  $\frac{2}{45}$       C.  $\frac{4}{81}$       D. about 21%      9. \_\_\_\_\_
10. A sports bag contains 3 tennis balls, 4 baseballs, and 8 golf balls. Each is equally likely to be chosen. Which of the following models could be used to simulate this situation?  
 F. flipping a coin fifteen times  
 G. spinning a spinner with three equal sections  
 H. choosing from 3 red marbles, 4 yellow marbles, and 8 blue marbles  
 I. rolling a number cube labeled one through six fifteen times      10. \_\_\_\_\_

**Use the spinner for Exercises 11 and 12.**



11. Find  $P(\text{A or C})$ .      11. \_\_\_\_\_
12. Find  $P(\text{not a vowel})$ .      12. \_\_\_\_\_
13. How many ways can Julie, Ayat, Eirene and Bobby finish a race in first, second, third, and fourth place?      13. \_\_\_\_\_
14. Melody randomly selected two apples without replacing the first apple from a crate containing 10 Granny Smith apples, 14 Red Delicious apples, 4 Golden Delicious apples, and 18 Braeburn apples. What is the probability that Melody selected a Golden Delicious apple first and a Granny Smith apple second?      14. \_\_\_\_\_
15. There are 12 students on the basketball team. In how many ways can the coach set up the starting lineup of 5 players?      15. \_\_\_\_\_

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