



4. A square has a perimeter of  $8g + 16$ . Which expression also represents the perimeter given the side length of the square?

- a)  $2(4g + 8)$       b)  $4(2g + 4)$       c)  $4(2g) + 16$       d)  $4(g + 2) + 4(g + 2)$

5. A new restaurant is giving 10% of its randomly selected customers a discount coupon for their next meal. Which model could be used to create a simulation to predict the number of customers who get a coupon?

- a) Spin a spinner with 4 equal sections labeled 1 to 4. Let the number 4 represent a customer who gets a coupon, and the other numbers represent a customer who does not get a coupon.
- b) Roll 2 six-sided number cubes. Let a sum of 2 represent a customer who gets a coupon, and the other sums represent a customer who does not get a coupon.
- c) Use cards numbered from 0 to 10. Let 0 represent a customer who gets a coupon, and the other numbers represent a customer who does not get a coupon.
- d) Use a computer-based program to generate 10 random numbers from 1 to 10. Let 1 represent a customer who gets a coupon, and the other numbers represent a customer who does not get a coupon.

6. Jason bought a 16-inch pizza, what is the circumference of the circle?

- a) 62.80 inches      b) 50.27 inches      c) 100.53 inches      d) 804.25 inches

**7. After first entering the ocean, a scuba diver descends to a depth 18 feet below the surface of the water. The diver then ascends 7 feet before descending 18 feet again. What is the final depth of the diver below the surface of the water?**

- a) -29 feet          b) -43 feet          c) 29 feet          d) 43 feet**

**8. Johnathan picked colored beads from a jar 50 times, replacing the bead each time. He picked a red bead 12 times, a yellow bead 14 times, and a blue bead 24 times. How many blue beads should Johnathan expect to pick out of 150 times?**

- a) 36                  b) 42                  c) 72                  d) 78**

**9. Jill wants to find out which sport is the most popular among the students at her school. Which sampling method should Jill use if she wants the results to be representative of the entire student population?**

- a) She should ask the first fifteen students who enter the cafeteria one day.**  
**b) She should ask every third student who arrives to school one day.**  
**c) She should ask all the students who play on a sports team.**  
**d) She should ask all the students in her gym class.**

10. Each table shows the number of questions on a quiz and the point value of each quiz given by four different teachers. Which table shows a proportional relationship between the number of questions and the point value?

a) Mrs. Jacob's Quiz Grading

Number of Questions	Point Value
3	14
4	17
8	29
12	41

b) Mr. Well's Quiz Grading

Number of Questions	Point Value
5	13
9	25
13	37
15	43

c) Mr. Lee's Quiz Grading

Number of Questions	Point Value
4	9
7	15
12	25
20	41

d) Mrs. Rigg's Quiz Grading

Number of Questions	Point Value
4	20
6	30
10	50
15	75

11. Mr. Gill is draining his pool. The pump he is using changes the water level by  $-2\frac{1}{4}$  inches per hour. A stronger pump would drain the pool  $2\frac{1}{2}$  times as fast. What would the change in water level be per hour if Mr. Gill used the stronger pump?

- a)  $-5\frac{5}{8}$  inches    b)  $-4\frac{1}{8}$  inches    c)  $4\frac{1}{8}$  inches    d)  $5\frac{5}{8}$  inches

12. The distance a train travels over time is shown in the graph below.

Train Travel


At what rate of speed does the train travel?

- a) 10 miles per hour                      c) 50 miles per hour  
b) 40 miles per hour                      d) 60 miles per hour

13. Cindy dissolves  $19\frac{1}{4}$  grams of drink mix in  $1\frac{3}{4}$  ounces of water. What is the unit rate in grams of drink mix per ounce of water?

- a) 21                      b)  $17\frac{1}{2}$                       c)  $15\frac{4}{5}$                       d) 11

14. Paul is selling \$2 raffle tickets for his baseball team. He needs to sell at least \$230 worth of tickets to earn a team jacket. If he has already sold \$50 worth of tickets, how many more raffle tickets,  $x$ , does Paul need to sell to earn a team jacket?

a)  $x \geq 90$

b)  $x \leq 90$

c)  $x \geq 180$

d)  $x \leq 180$

15. A bus traveled 120 miles on a highway in  $2\frac{1}{2}$  hours. If the bus traveled at a constant speed, what was the speed of the bus in miles per hour?

a) 40 mph

b) 45 mph

c) 48 mph

d) 50 mph

16. Which expression is equivalent to  $(13x - 4) - (20x - 15)$ ?

a)  $33x + 11$

b)  $33x - 19$

c)  $-7x - 19$

d)  $-7x + 11$

17. The Demir family has a monthly budget of \$5,500. Mrs. Demir works fulltime and takes home \$4,000 each month. Mr. Demir works part-time and earns \$16 per hour. How many hours per month must Mr. Demir work at his part-time job to make sure that he and Mrs. Demir have met their monthly budget?

18. Chana has a bag of colored tiles. Without looking, she removes one tile, records the color, and replaces it. She repeats this process 40 times and records the results in the table below.

Color	Frequency
Red	9
Blue	12
Green	14
Yellow	5

What is the probability that Chana will not pick a yellow tile on her forty-first time?

19. Aaron buys 3 ties for \$19.95 each, a belt for \$23.50, and a pair of boots for \$124.95. The sales tax in his city is 5%. What is the total cost of Aaron's purchases? (Round to the nearest hundredth)
20. A circle has a radius of 7 inches. What is the area of the circle? (Round to the nearest hundredth)
21. Patti got a new part-time job. Her hourly wage increased from \$10.50 to \$12.39. What was the percent increase in Patti's hourly wage?