

- 1** The elevation of the surface of the Dead Sea is about  $-424.3$  meters. In 2005, the height of Mt. Everest was about  $8,844.4$  meters. How much higher was the peak of Mt. Everest than the surface of the Dead Sea?

**A**  $-9,268.7$  m  
**B**  $-8,420.1$  m  
**C**  $8,420.1$  m  
**D**  $9,268.7$  m

- 2** About how many times should you expect to roll an even number on a standard 1–6 number cube if you roll it 600 times?

**A** 100  
**B** 200  
**C** 300  
**D** 400

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- 3** Which set of angle measures could form a triangle?

**A**  $2^\circ$ ,  $27^\circ$ , and  $33^\circ$   
**B**  $22^\circ$ ,  $90^\circ$ , and  $145^\circ$   
**C**  $36^\circ$ ,  $42^\circ$ , and  $102^\circ$   
**D**  $55^\circ$ ,  $122^\circ$ , and  $159^\circ$

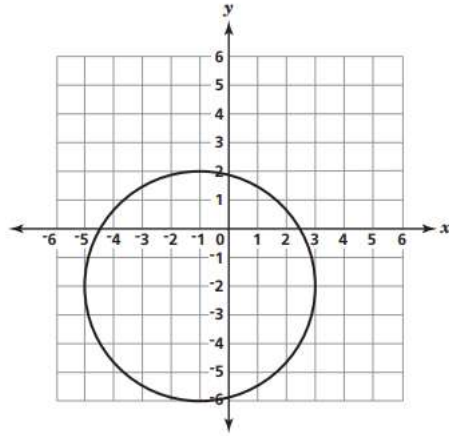
- 5** Cedric has 1 red pen, 1 blue pen, and 1 black pen in his desk. If he randomly draws two of them from the desk without replacement, what is the probability he will draw the blue and black pens?

**A**  $\frac{1}{3}$   
**B**  $\frac{1}{6}$   
**C**  $\frac{1}{9}$   
**D**  $\frac{1}{12}$

- 8** An irrigation system spreads water in circular patterns. Each irrigated section is a circle with a diameter of 40 feet. In terms of  $\pi$ , what is the area of an irrigated section?

**A**  $20\pi$  ft<sup>2</sup>  
**B**  $40\pi$  ft<sup>2</sup>  
**C**  $400\pi$  ft<sup>2</sup>  
**D**  $1,600\pi$  ft<sup>2</sup>

- 4 The figure shows a circle graphed on a coordinate plane.



What is the approximate circumference of the circle? Use 3.14 for  $\pi$ .

- 6 Holly spends  $7\frac{3}{5}$  hours in school each day. Her lunch period is  $\frac{1}{2}$  hour long, and she spends a total of  $\frac{7}{10}$  hour switching rooms between classes. The rest of her day is spent in 6 classes that are all the same length. How long is each class?

- A  $1\frac{1}{15}$  hours
- B  $1\frac{3}{20}$  hours
- C  $1\frac{11}{60}$  hours
- D  $1\frac{4}{15}$  hours

- 7 There is a proportional relationship between the variables  $x$  and  $y$ .  
When  $x$  is  $\frac{1}{2}$ ,  $y$  is 2.

If the equation  $y = kx$  represents the relationship between  $x$  and  $y$ , where  $k$  is the constant of proportionality, what is the value of  $k$ ?

- A  $\frac{1}{4}$
- B  $\frac{1}{2}$
- C 2
- D 4

- 9** Abdul surveyed a random sample of adults to find out how many hours per night they sleep. The results are shown below.

7, 7, 6, 8, 8, 7, 7, 8, 6, 7, 5, 8, 8, 7, 6, 7, 6, 9, 6, 7

What is the mean number of hours of sleep for the population from which the sample was drawn?

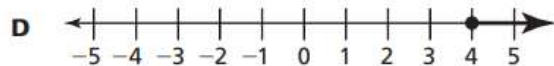
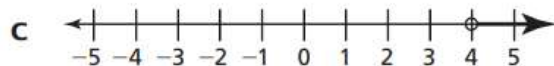
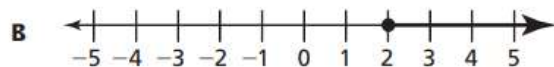
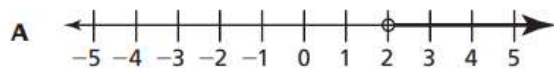
- A** 6.5 hours
- B** 7 hours
- C** 7.5 hours
- D** 8 hours

- 10** Yesterday, Molly's lunch cost \$9.80, and she left a \$1.47 tip. Today, Molly's lunch cost \$12.60. If she tips at the same rate that she did yesterday, how much of a tip should Molly leave?

- A** \$1.14
- B** \$1.47
- C** \$1.89
- D** \$4.27

- 11** The O'Neil family is taking a road trip. Their final destination is more than 243 miles from their house, and so far they have traveled 157 miles. Their car can travel 21.5 miles on a gallon of gas.

Which number line shows the solution set for the number of gallons of gas the O'Neil family needs to reach their destination?



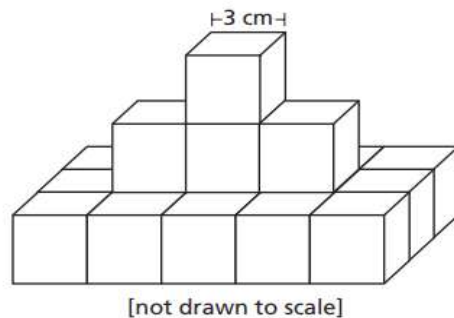
- 12** A rectangular room on a blueprint is 2 inches wide and 5 inches long. The blueprint uses the scale 1 inch = 72 inches. What is the width of the room in feet?

**A** 12 ft  
**B** 18 ft  
**C** 30 ft  
**D** 36 ft

- 14** The math club needs to raise more than \$552.35 for a trip to the state competition. The club account has a balance of \$67.25. Which inequality shows how much money each of the 7 club members needs to raise if they all raise the same amount?

**A**  $m < \$69.30$   
**B**  $m > \$69.30$   
**C**  $m < \$78.91$   
**D**  $m > \$78.91$

- 15** The figure below is composed of cubes.



What is the surface area of the figure?

**A**  $174 \text{ cm}^2$   
**B**  $261 \text{ cm}^2$   
**C**  $348 \text{ cm}^2$   
**D**  $522 \text{ cm}^2$

- 16** Which number is located the same distance on a number line from  $-5$  as  $3$  is?

**A** 13  
**B** 8  
**C**  $-7$   
**D**  $-13$