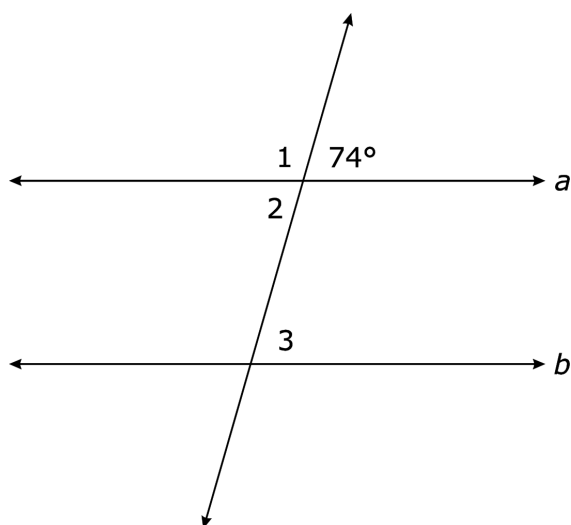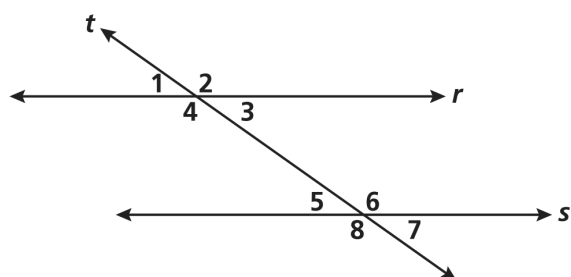**Name:** _____   **Date:** _____

1. In the diagram below, $a \parallel b$.

What are the measures of $\angle 1$, $\angle 2$, and $\angle 3$? Explain how each angle measure is determined.

2. In the diagram below, line t intersects parallel lines r and s.

If the measure of $\angle 3 = 68°$, what is the measure of $\angle 8$?

A. 180°   B. 112°   C. 68°   D. 28°

3. Which is a correct statement about vertical angles?

A. Vertical angles are always acute.

B. Vertical angles are always congruent.

C. Vertical angles are always supplementary.

D. Vertical angles are always complementary.
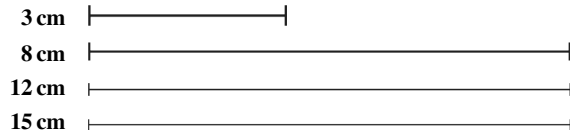
4. Tonya created the following design for her geometry project.
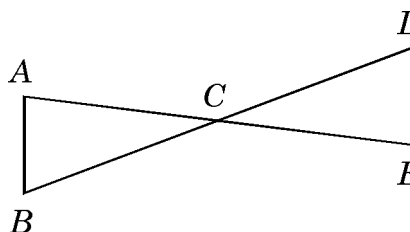
What kind of angles are $\angle ACD$ and $\angle BCE$?

A. complementary angles

B. interior angles

C. supplementary angles

D. vertical angles

5. Four line segments and their lengths are shown below.

Three of the line segments will be used to form a triangle. Which lists all of the possible groups of the lengths of the line segments that could be used to form a triangle?
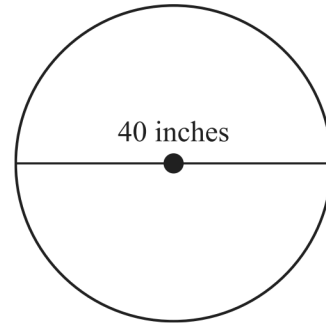
A.   3 cm   12 cm   15 cm

B.   8 cm   12 cm   15 cm

C.   3 cm   8 cm   12 cm
     3 cm   8 cm   15 cm

D.   3 cm   8 cm   12 cm
     3 cm   8 cm   15 cm
     3 cm   12 cm   15 cm
     8 cm   12 cm   15 cm

6. The lengths of three sides of a triangle are 5, 9, and x, all measured in centimeters. What are all possible values of x?

A. $4 < x < 14$ B. $0 < x < 14$

C. $5 < x < 15$ D. $3 < x < 9$

7. The figure below is a drawing of a circular window in a building.
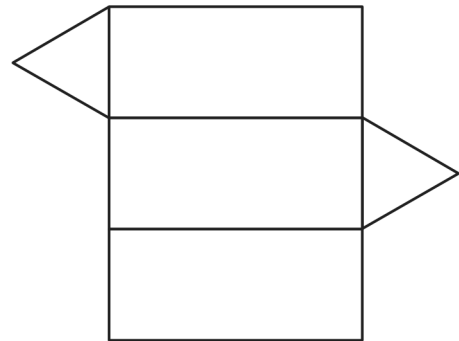
Circular Window

How long is the radius in inches?

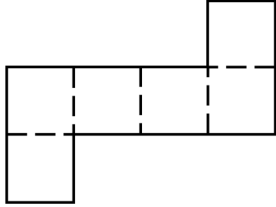A.   10   B.   20   C.   40   D.   80

8. Josh wants to fold the net shown below to make a 3–dimensional object.

Which object will be represented by the folded net?

A.   triangular prism   B.   triangular pyramid

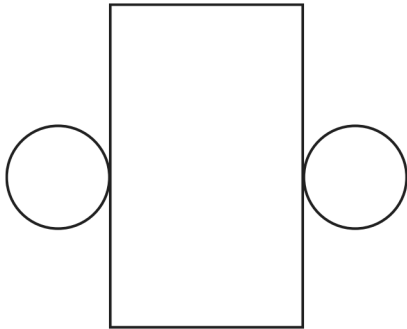C.   square pyramid   D.   rectangular prism

9. Use the figure below to answer the following question.

If the pattern is cut out and folded only along the dotted lines with no sides overlapping, which one of the following figures would be produced?

A. sphere   B. pyramid

C. cone   D. cube

10. Bryan is designing a gift container shown below.

His design will be folded to make the container. What is the shape of Bryan's container?

A. circle   B. cone

C. cylinder   D. sphere

11. Select the correct ordering of the following values from smallest to largest:

$\frac{4}{9}$ 4.9   49%

A. 4.9, 49%, $\frac{4}{9}$ B. 4.9, $\frac{4}{9}$, 49%

C. $\frac{4}{9}$, 49%, 4.9   D. $\frac{4}{9}$, 4.9, 49%

12. Barry earned $175 for 14 hours of gardening. How much money did Barry earn per hour?

A. $3.50   B. $12.50

C. $14.00   D. $17.50

13. In Jean's class there are twice as many boys as girls. If there are 10 girls in the class, how many boys and girls are there in the class?

A. 15   B. 20   C. 25   D. 30

14. The original price for a jacket is $124.95. It is on sale for 20% off. Which of the following gives the best estimate of the savings?

A. $25.00   B. $30.00

C. $20.00   D. $2.00

15. George finished 10 of the 25 math problems. What percent of the problems did George finish?
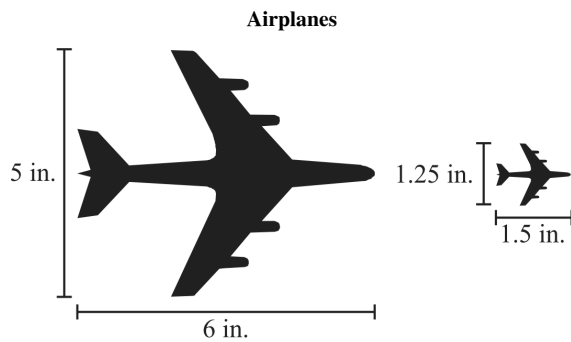
   A. $\frac{10}{25}\%$ B. 10%   C. 40%   D. 35%

16. In the past ten years, the price of popcorn at a movie theater increased from $2.00 to $4.50.

   By what percent did the price increase?

   A. 56%   B. 80%   C. 125%   D. 250%

17. A book on aviation has two pictures of the same airplane. The pictures are similar in shape and size.

Airplanes

5 in.   1.25 in.   1.5 in.   6 in.

What is the scale from the larger picture to the smaller picture?

   A. 1:0.25   B. 1:0.3

   C. 1:1.2   D. 1:4.0

18. Charles spent a total of $15.50 for both entrance to the ice skating rink and a snack. The snack cost $5.50. In the equation below, t represents the cost, in dollars, to enter the skating rink. Which process could Charles use to solve the equation for t in exactly one step?

$$t + 5.50 = 15.50$$

   A. Add 5.50 to both sides of the equation.

   B. Subtract 5.50 from both sides of the equation.

   C. Subtract 15.50 from both sides of the equation.

   D. Divide both sides of the equation by 5.50.

19. Four friends earned money by painting a house. After they divided the money equally, they each received $315.

   Which of the following equations could be used to determine x, the total amount, in dollars, that the four friends earned by painting the house?

   A. $\frac{x}{4} = 315$ B. $4x = 315$

   C. $x - 4 = 315$ D. $x + 4 = 315$
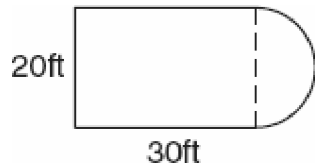
20. Use the graph below to answer the question that follows.
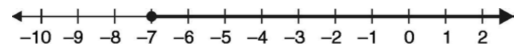
This graph is the solution set for which inequality?

   A. $x - 14 > 7$ B. $x - 7 \geq 14$

   C. $2x \geq -14$ D. $14x \geq -2$

21. The figure below represents die top view of an area taken up by a fountain at a shopping mall. The figure consists of a rectangle with a semi circle at its end as shown.

20ft

30ft

Which is closest to the total area taken up by the fountain?

A.   257 sq ft   B.   757 sq ft

C.   914 sq ft   D.   1228 sq ft

22. Francine drew the picture shown below on a piece of poster board.

8 in.

8 in.

10 in.

8 in.
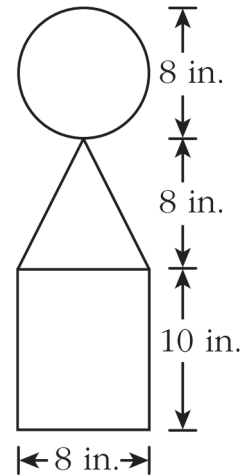
Francine plans to color the interiors of the circle and the triangle blue. What is the approximate area of the parts of the picture that she will color blue?

A. 57 in.^{2} B. 82 in.^{2}

C. 114 in.^{2} D. 233 in.^{2}

Maintenance Sheet 27   3/8/2018

1.
Answer: $106°, 74°, 74°$

2.
Answer: B

3.
Answer: B

4.
Answer: D

5.
Answer: B

6.
Answer: A

7.
Answer: B

8.
Answer: A

9.
Answer: D

10.
Answer: C

11.
Answer:

12.
Answer: B

13.
Answer: D

14.
Answer: A

15.
Answer: C

16.
Answer: C

17.
Answer: A

18.
Answer: B

19.
Answer: A

20.
Answer: C

21.
Answer: B

22.
Answer: B