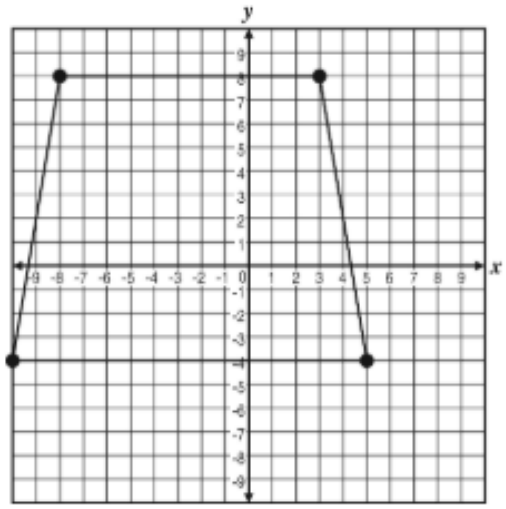
Name: _____

Algebra Unit 7 and 8th Grade Unit 6 Study Guide

Test: _____

1. The points A(-7,2), B(8,10), C (8, -3), and D (-7, -11) create parallelogram ABCD. What is the perimeter of parallelogram ABCD, in units?
2. If the endpoints of a line segment are (-4, 3) and (2, 9), what is the y-value of the midpoint of the line segment?
3. Sam and Peter are trying to determine a good meeting point between their two homes. Sam's home is at the coordinates (7,2) and Peter's home is at the coordinates (3,4). They want to meet at a location halfway between their homes. The coordinates of a good meeting place are _____.
4. The midpoint of line segment AB is Point M which is located at (-18, 10). Point A is located at (3, -3) and Point B is located at (-39, ____).

5. Determine the perimeter of the following quadrilateral.



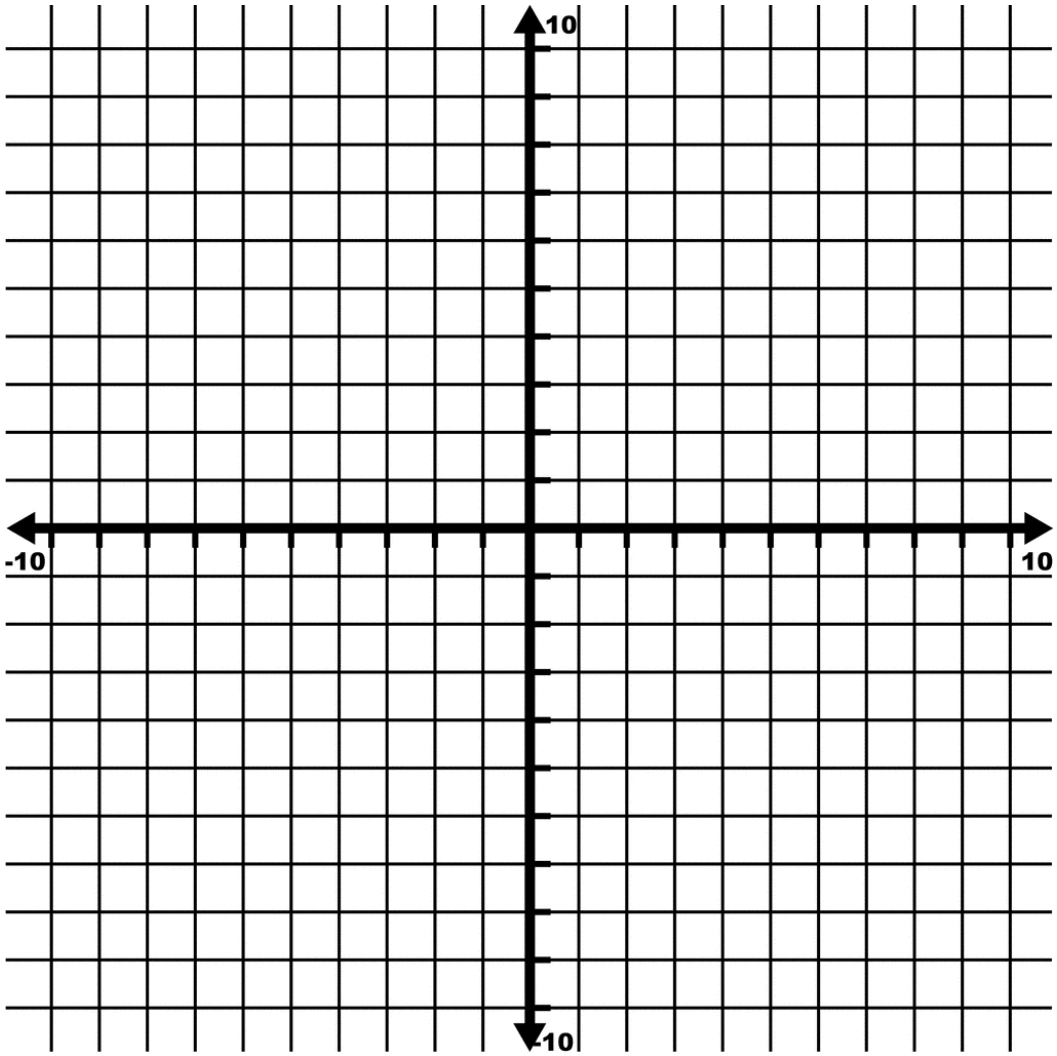
6. The midpoint between (8,3) and (12, -7) is _____.

7.

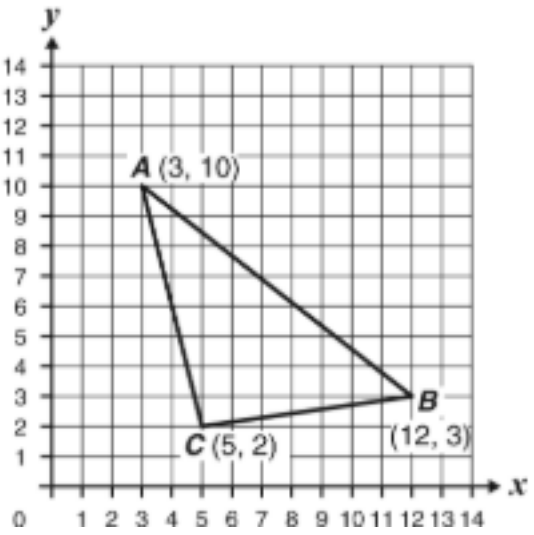
What are the coordinates of the midpoint of the line segment with endpoints $(2, 5)$ and $(4, -7)$?

- ○ $(-1, -6)$
- ○ $(-2, -2)$
- ○ $(3, -1)$
- ○ $(6, -2)$

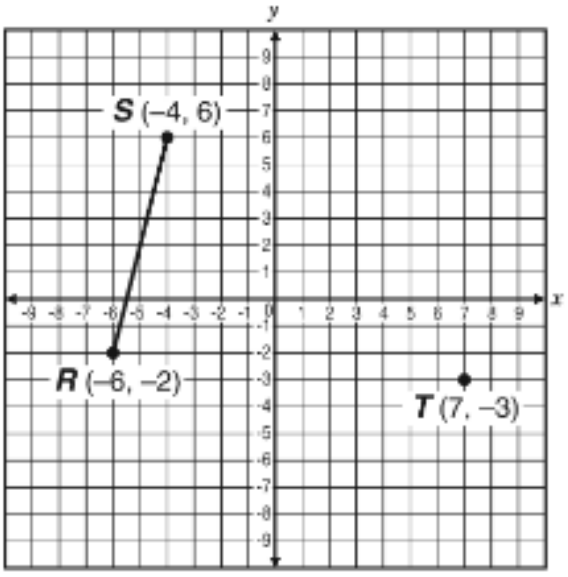
8. In the figure graph below, line segments AC and BD are perpendicular. What is the area of the triangle ABD, in square units?



9. What is the slope of the line that connects Point A with the midpoint of line segment CB? Record the answer as a fraction in lowest terms.

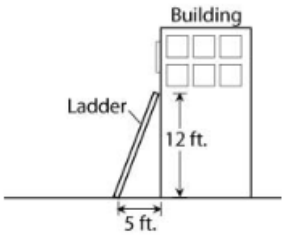


10. What is the distance from Point T to the midpoint of line segment RS?



11.

The figure shows a ladder placed against the side of a building.



The ladder forms a right triangle with legs 5 feet and 12 feet. How long is the ladder?

- ○ 17 feet
- ○ 13 feet
- ○ 11 feet
- ○ 19 feet

12.

The table below shows the side lengths for some triangles. Determine whether the side lengths define a right triangle.

Drag and drop either Yes or No into the box next to the side lengths.

Triangle Side Lengths	Yes or No
3 ft, 4 ft, 6 ft	
5 in, 12 in, 13 in	
25 cm, 31 cm, 40 cm	

13.

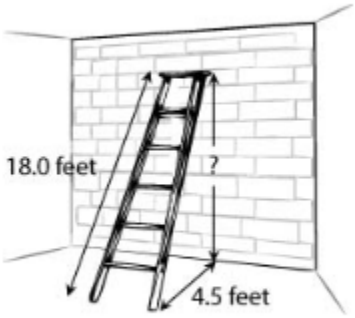
In right triangle ABC shown below, AB is 12 ft and AC is 13 ft. What is the length of BC?



- ○ 5 ft
- ○ 11 ft
- ○ 18 ft
- ○ 25 ft

14.

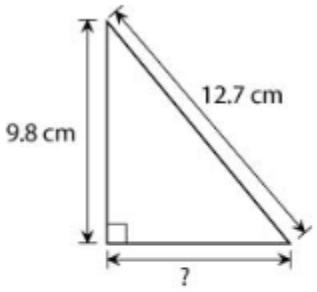
An 18-foot ladder is leaning against a wall. The bottom of the ladder is 4.5 feet from the base of the wall.



How high up the wall does the ladder reach? Round your answer to the nearest tenth, if necessary.

15.

The dimensions of a right triangle are shown in the diagram.

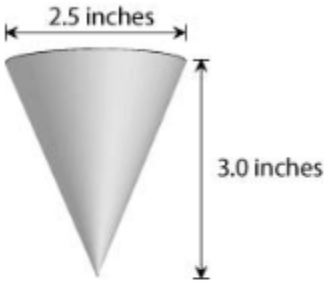


What is the length of the missing side, to the nearest tenth of a centimeter?

- 1.7 cm
- 2.9 cm
- 8.1 cm
- 8.4 cm

16.

Lydia finds a solid cone and determines its dimensions.



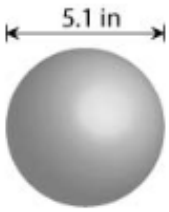
What is the volume of her cone? Use $\pi \approx 3.14$. Round the answer to the nearest tenth.

- 1.6 cubic inches
- 4.9 cubic inches
- 6.5 cubic inches
- 14.7 cubic inches

Part B: What is the answer in terms of π ?

17.

Gregory competes in the shot put at his high school. He throws a shot, a sphere-shaped metal ball with a diameter of 5.1 inches.

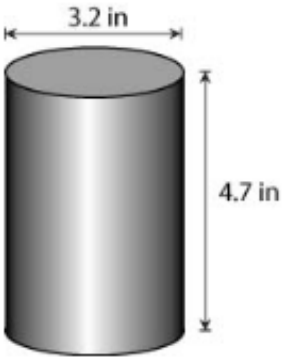


What is the volume of the shot? Use $\pi \approx 3.14$. Round the answer to the nearest tenth.

- ○ 17.4 cubic inches
- ○ 27.2 cubic inches
- ○ 69.4 cubic inches
- ○ 555.4 cubic inches

18.

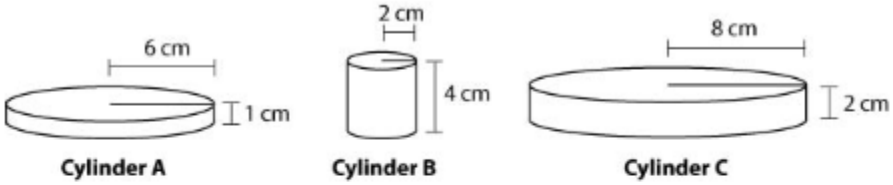
What is the volume of this cylinder? Let $\pi \approx 3.14$. Round the answer to the nearest tenth.



- ○ 12.0 cubic inches
- ○ 37.8 cubic inches
- ○ 47.2 cubic inches
- ○ 151.1 cubic inches

19.

Look at the cylinders below.



Which statements are true about these three cylinders?

Choose ALL that are correct.

- ☐ The volume of cylinder B is larger than the volume of cylinder A.
- ☐ The volume of cylinder A is about 113.1 cubic centimeters.
- ☐ Cylinder C has the largest volume.
- ☐ The volume of cylinder C is about 402.1 cubic centimeters.
- ☐ Cylinder B has the largest volume.

20. Mike has a cylinder-shaped pitcher that is 14 inches tall and has a radius of 5 inches. Heather has a cylinder-shaped pitcher that is 6 inches tall and has a radius of 4 inches.

The pitcher that _____ has holds about _____ more juice than the pitcher that _____ has.