

**KNOX COUNTY SCHOOLS**  
**8<sup>th</sup> Grade Module Assessment**  
**Module 9: Pythagorean Theorem**

Name \_\_\_\_\_

Date \_\_\_\_\_

<b>CC State Standards</b>	<b>8.G.6, 8.G.7, 8.G.8</b>
<b>Calculator Usage</b>	<b>1-15 Calculator</b>

[1] Circle the hypotenuse measurement of the sides of the triangle below.

20 ft, 21 ft, 29 ft

[2] Which set of measurements could be the side lengths of a right triangle?

A. 1.4 cm, 1.9 cm, 2.0 cm

B. 1.5cm, 1.6 cm, 1.2 cm

C. 1.2 cm, 1.7 cm, 2.3 cm

D. 1.2 cm, 1.6 cm, 2.0 cm

[3] Circle the triplets below that could be sides of a right triangle?

(40, 42, 58), (3, 4, 5), (11, 60, 61), (24, 32, 41)

[4] Callie walked to her friend's house, which is 8 blocks away. Then they walked to the movies, which was a distance of 14 blocks. After the movies they walked back to Callie's house, which is 10 blocks from the movie theatre. When looking on a map Callie's route created a triangle. Would her route create a right triangle? Draw a picture and use the Pythagorean theorem to justify your answer.

[5] Billy and Jesse are building a deck for a friend. They want all of the angles to be 90 degrees. One side of the deck is 8 feet, another side is 6 feet, and the diagonal they used to form a triangle is 10 ft. Does the corner of the deck form a right angle? Draw a picture and use the Pythagorean theorem to justify your answer.

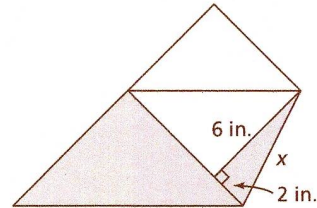
[6] A teacher is showing her class how to fold a square piece of paper to create a paper cup. One of the steps is shown below. According to the measurements, what is the length of  $x$ , in inches.

A. 4

B.  $\sqrt{32}$

C.  $\sqrt{40}$

D. 8



[7] D'Ante positioned an 11 m ladder against the side of his house at an angle so he could paint. The distance from the base of the house to the ladder is 5 meters. How far up the wall will the ladder reach? Round to the nearest tenth.

[8] The size of a television screen is usually measured by the diagonal across the screen. Which of the following best describes the size of this screen?



A. 40 inches

B. 36 inches

C. 28 inches

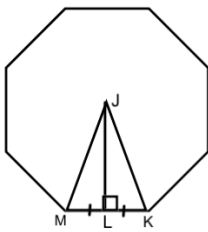
D. 25 inches

**KNOX COUNTY SCHOOLS**  
**8<sup>th</sup> Grade Module Assessment**  
**Module 9: Pythagorean Theorem**

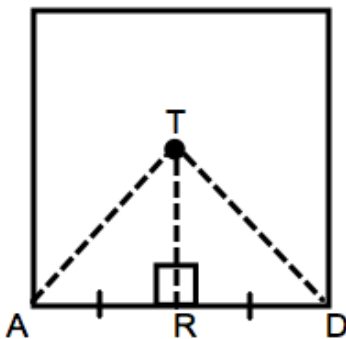
Name \_\_\_\_\_  
Date \_\_\_\_\_

[9] A cable 16 ft long runs from the top of a utility pole to a point on the ground 12 ft from the base of the pole. How tall is the utility pole? Draw a picture and use the Pythagorean theorem to justify your answer.

[10] The regular octagon below has the center J. The length of  $\overline{JK}$  is 2.8cm and the length of  $\overline{JL}$  is 2.3cm. What is the perimeter of the regular octagon? (Round to the nearest tenths)



[11] The square below has the center T. The length of  $\overline{TD}$  is 13 in and the length of  $\overline{TR}$  is 5 in. What is the area of the square?

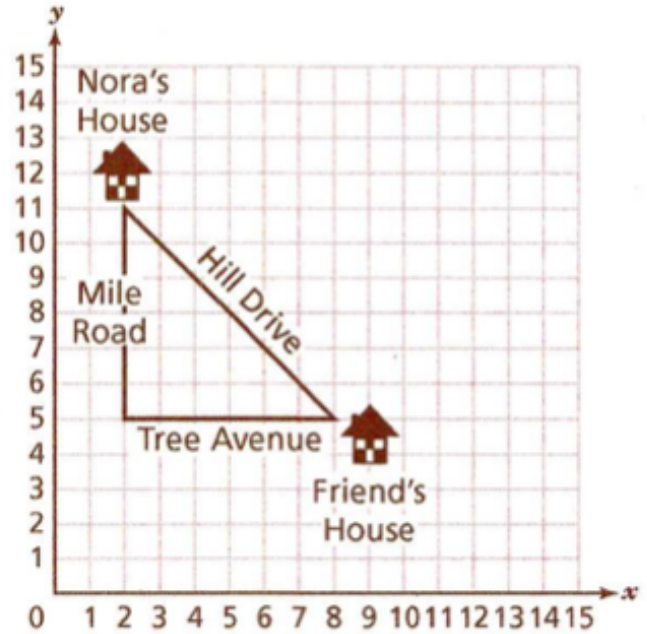


**KNOX COUNTY SCHOOLS**  
**8<sup>th</sup> Grade Module Assessment**  
**Module 9: Pythagorean Theorem**

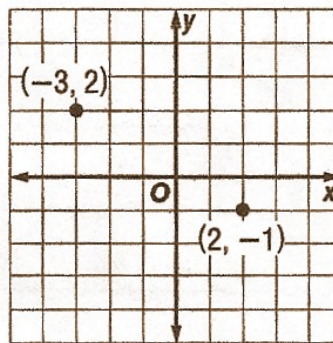
Name \_\_\_\_\_  
Date \_\_\_\_\_

[12] The grid shows a diagram of two paths from Nora's house to her friend's house. Based on the diagram, which is the closest distance from Nora's house to her friend's house on Hill Drive?

- A. 6 units
- B. 8 units
- C. 18 units
- D. 36 units



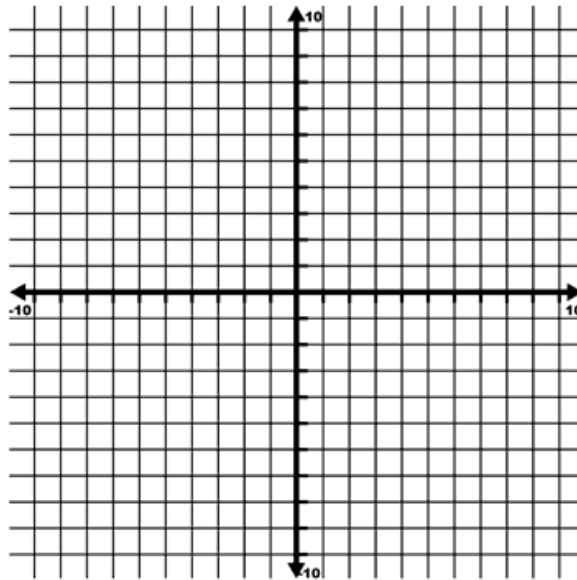
[13] Connect a line from  $(-3, 2)$  to  $(2, -1)$ . Use the Pythagorean theorem to determine the distance between those two points. Round your answer to the nearest tenth.



**KNOX COUNTY SCHOOLS**  
**8<sup>th</sup> Grade Module Assessment**  
**Module 9: Pythagorean Theorem**

Name \_\_\_\_\_  
Date \_\_\_\_\_

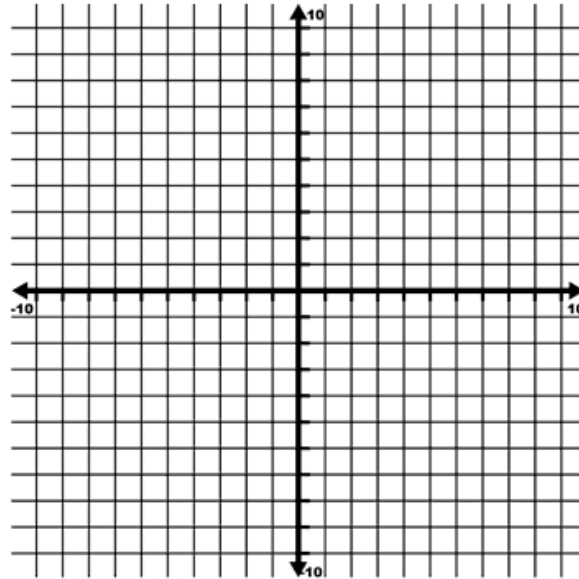
[14] On the coordinate plane, draw Point X  $(-5,5)$  and Point Y  $(-3,-8)$ . Using the Pythagorean theorem, find the distance between Point X and Point Y. Round your answer to the nearest tenth.



**KNOX COUNTY SCHOOLS**  
**8<sup>th</sup> Grade Module Assessment**  
**Module 9: Pythagorean Theorem**

Name \_\_\_\_\_  
Date \_\_\_\_\_

[15] On the coordinate plane, draw Point S  $(-2, 3)$  and Point T  $(1, 2)$ . Using the Pythagorean theorem, find the distance between Point S and Point T.



- A.  $\sqrt{2}$  units
- B. 2 units
- C. 10 units
- D.  $\sqrt{10}$  units

**KNOX COUNTY SCHOOLS**  
**8<sup>th</sup> Grade Module Assessment**  
**Module 9: Pythagorean Theorem**

Name \_\_\_\_\_

Date \_\_\_\_\_

Question Number	Answers	Standards
[1]	29 ft	8.G.6
[2]	<i>D</i>	8.G.6
[3]	<i>3, the first three sets</i>	8.G.6
[4]	<i>No, <math>8^2 + 10^2 = 14^2</math></i>	8.G.6
[5]	<i>Yes, <math>6^2 + 8^2 = 10^2</math></i>	8.G.6
[6]	<i>C</i>	8.G.7
[7]	<i>9.8m</i>	8.G.7
[8]	<i>C</i>	8.G.7
[9]	<i>10.6ft</i>	8.G.7
[10]	<i>25.6cm</i>	8.G.7
[11]	<i>576 in<sup>2</sup></i>	8.G.7
[12]	<i>B</i>	8.G.8
[13]	<i>5.8units</i>	8.G.8
[14]	<i>13.2units</i>	8.G.8
[15]	<i>D</i>	8.G.8