Name _____ Date _____ Period _____

Looking for Pythagoras
Unit Test Review

Standards

8.2.F. Demonstrate the Pythagorean Theorem and apply it to solve problems.

8.2.G. Use the Pythagorean Theorem to find the distance between two points on the coordinate plane.

Would the following side lengths form a right triangle? Show work to support/defend your answer.

1. 20, 29, 21

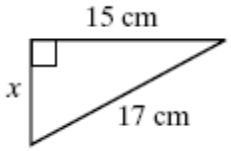
2. 12, 11, 7

3. $5cm, 7cm, \sqrt{74}cm$

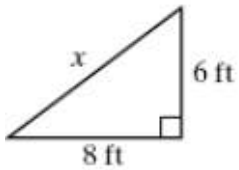
4. $\sqrt{2}ft, \sqrt{7}ft, 3ft$

Find the missing side length using the Pythagorean Theorem. Give the <u>exact and approximate</u> lengths. Show all your work!

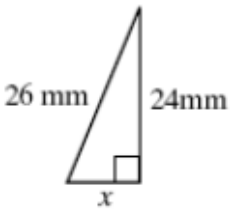
5.



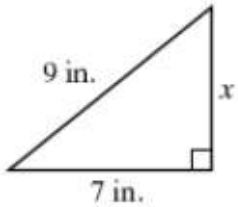
6.



7.

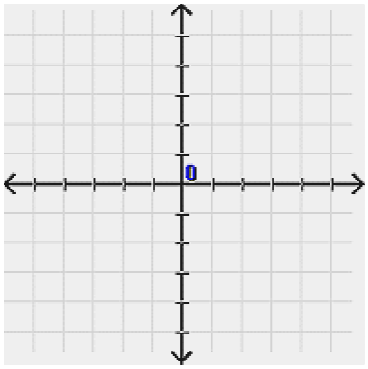


8.

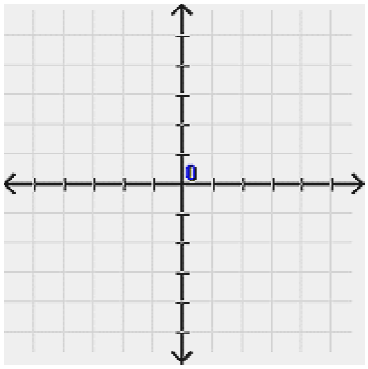


Draw the line connecting the following points on the graphs below. Find the <u>exact and approximate</u> lengths of the lines you drew.

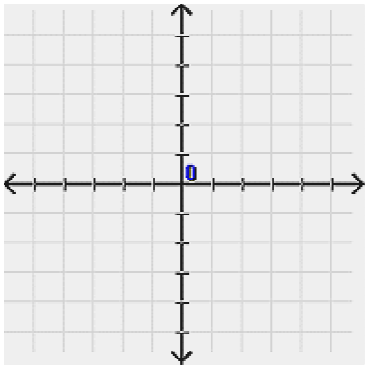
9. The points (2, 4) and (4, 2)



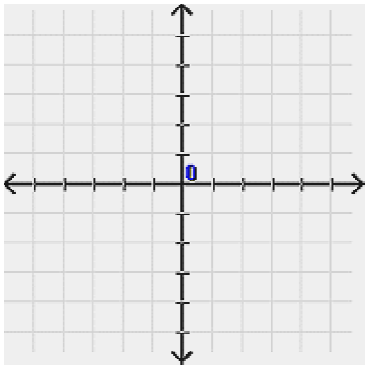
10. The points (–2, 0) and (3, 3)



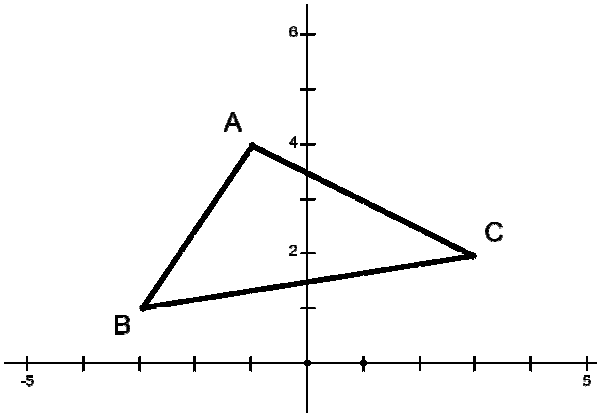
11. The points (–3, 1) and (–1, –4)



12. The points (2, 0) and (5, 6)



13. Find the length of each side of the triangle using the Pythagorean Theorem. Give the <u>exact and approximate</u> lengths. Show all your work.



For problems 14 – 20:

- **Draw a diagram to represent the situation**
- **Define your variable**
- **Set up an equation and solve**
- **Round your final answer to the nearest tenth and include units**

14. You're locked out of your house and the only open window is on the second floor, 25 feet above the ground. You need to borrow a ladder from one of your neighbors. There's a bush along the edge of the house, so you'll have to place the ladder 10 feet from the house. What length of ladder do you need to reach the window?

15. A ship leaves the harbor and travels 12 miles east and then turns and travels 30 miles north. How far is the ship from the harbor?

16. Find the length of the path that runs diagonally across a 53 yard by 100 yard field.

17. Linda can turn off her car alarm from 20 yards away. Will she be able to do it from the far corner of a 15 yard by 12 yard parking lot?

18. Harry drove 10 miles west, then five miles north, then three miles west. How far was he from his starting point?

19. A 25 -foot tall tree casts a 10-foot shadow on the ground. How far is it from the end of the shadow to the top of the tree?

20. John leaves school to go home. He walks 6 blocks north and then 8 blocks west. How far is John from the school?