Review for Quest #11 - Rational/Irrational Numbers & Pythagorean Theorem

Name: _____ Class: _____

For questions 1 – 4, determine if the number is rational or irrational. Explain your reasoning.

1. 0.324324…

2. $\sqrt{\dfrac{81}{49}}$

3. $\sqrt{50}$

4. 3.14

For questions 5 – 12, write the radical in simplest radical form.

5. $\sqrt{50}$

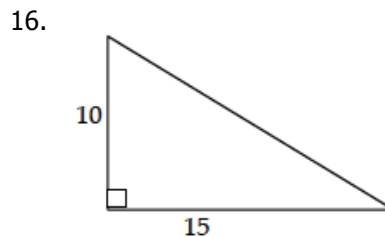6. $7\sqrt{32}$

7. $-2\sqrt{450}$
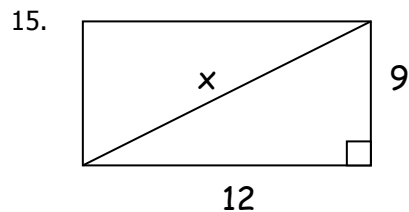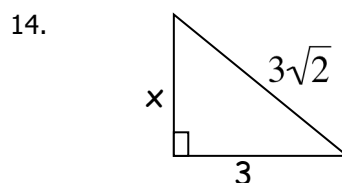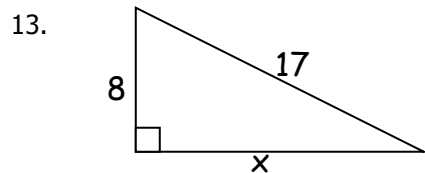
8. $7\sqrt{162}$

9. $\sqrt{48}$

10. $-4\sqrt{27}$

11. $\sqrt{128}$

12. $3\sqrt{175}$

For questions 13 – 16, solve for x. If necessary, leave the answer in simplest radical form.

13.

14.

15.

16.

For 17 – 18, determine if the set of numbers could make a right triangle.

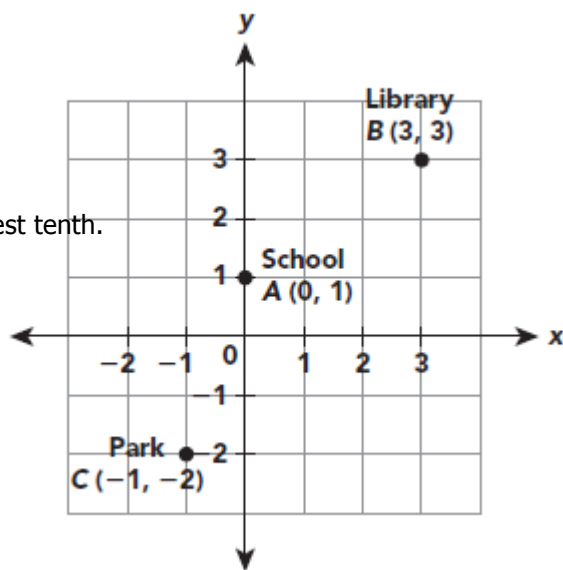17. 16, 30, 34 _____

18. 10, 24, 25 _____

19. A rectangle has a width of 24 and a length of 18. What is the length of the diagonal of the rectangle?

20. A ladder 15 feet in length rests against a vertical building. The foot of the ladder is 12 feet from the building. How far up the building does the ladder reach?

21. Noa drove directly east for 40 miles, then drove directly south for 37 miles. Anne started at the same place as Noa, but found a direct diagonal shortcut to the same endpoint. How many miles **shorter** did Anne drive? Round your answer to the nearest tenth.

22. Find the distances between the two locations below. Round to the nearest tenth.

a.) School to Library

b.) School to Park

c.) Which is the furthest distance from the school, the library or park? By how much?