**I can use the Pythagorean Theorem to solve contextual problems**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8th Grade Pre-Algebra**

**Test 2 Study Guide**

**Pythagorean Theorem & Equations**

**(7 problems on test)**

[1] Use the Pythagorean Theorem to determine whether a triangle with sides of the

given lengths form a right triangle. **Justify your response.**

39 ft; 208 ft; 209 ft.

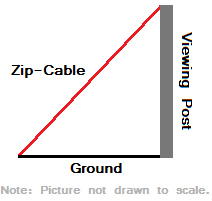
[2] Use the Pythagorean Theorem to find the missing measure for the right triangle. Round your answer to the nearest tenth if necessary.

a = 24 ft; c = 34 ft; b = \_\_\_\_\_\_\_\_\_\_

[3] Trevor's rectangular bedroom is 15 feet by 8 feet. What is the diagonal distance from one corner to the opposite corner?

[4] Kenton just went down the slide at the playground. He walks 6 feet to get from the end of the slide back to the ladder. Then he climbs 8 feet to the top of the slide again. How long is the slide?

[5] Raymond was riding a zip-cable from the top of a viewing post. The cable is 65 yards long. The viewing post is 52 yards high and forms a right angle with the ground, as shown in the picture below. Given this information, how far is the bottom of the cable from the base of the viewing post?



**I can solve equations, including those with many solutions and no solutions.**

6. What is the solution for *x* in the equation , when

and 

7. Determine if the following equation has one solution, infinitely many solutions, or no solution. Show your work and explain your answer.



8. Is x = 1.5 a solution of the equation 8.5x - 4.3 = 3.3x + 3.5? Explain your answer.

9**.**  Write and solve an equation to find the number of miles you must drive to have the same cost for each of the car rentals.





$25 plus $0.50 per mile $30 plus $0.25 per mile

10. Describe and correct the error in solving the equation.

10x + 6 = 9x - 5

-9x -9x

x + 6 = 5

-6 -6

x = -1