**Squares & Square Roots Quiz** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SOL 8.5 Date \_\_\_\_\_\_\_\_\_\_\_Block \_\_\_\_\_\_\_\_\_

*Directions: Read each question carefully and be sure to answer it fully. Make sure to check over your work!*

1. List all the perfect squares from 1 to 400.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Find the* ***all*** *the square roots of the following. When necessary, round to the nearest tenth. Then place a “R” for the rational numbers and an “IR” for the irrational numbers.*

2. \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ 4. \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ 5.  \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

**Questions 6-10:** *On the number line below, place each value in the correct place. Be sure to label your number line using the perfect squares (i.e. ,  etc.) before and after each value. Keep in mind an accurate estimation of each square root.*

    

11. What two consecutive whole numbers does the square root of each number fall between? Then give an approximate value for the square root rounded to the nearest tenth.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ≈ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ≈ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Using a model and words, describe how 25 colored tiles represent a perfect square. Be sure to describe the dimensions of your model in your explanation.

13. Does your answer in # 12 prove that 13 colored tiles represent a perfect square? Explain and draw a model to help support your reasoning.

14. What does  represent in terms of evaluating? Explain.

15. A baseball field has an area of 8100 m2. If a player were to run around the bases for a homerun, he would have run a perfect square. What is the distance from third base to home plate? Draw a picture to support your answer.