



Estimating Square Roots

Student Activity

Name _____

Class _____

Part 1 – Ordering Squares

Use the Home screen to put the following numbers in order from least to greatest.

1. 4 $\sqrt{25}$ 10 2 $\sqrt{49}$ 6 $\frac{8}{3}$ $\sqrt{81}$

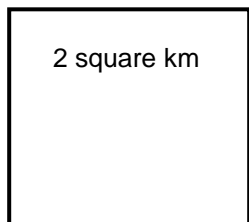
2. -1 $-\sqrt{36}$ 5 $\sqrt{16}$ -3 7 $\sqrt{121}$ $-\sqrt{64}$

Part 2 – Finding the Running Distance

You have been assigned to work with the track coach to find a new route for the cross-country team and have found the following options. The coach wants the team to have 3 different routes, short, medium, and long. The short route must be between 1 and 2.5 kilometers; the medium route must be between 3 and 4 kilometers; and the long route must be between 4 and 6 kilometers.

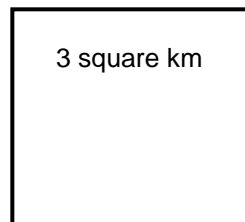
Find the distance around each square. Classify as short, medium, long, or none.

3.



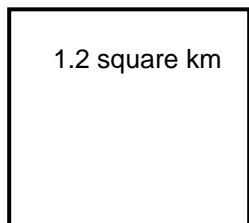
Answer: _____

4.



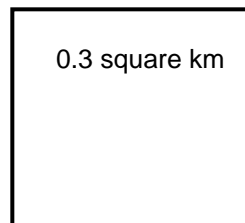
Answer: _____

5.



Answer: _____

6.



Answer: _____

7. Explain how you determined which perimeter fit in which category.



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Part 3 – Mixed Up Carpets

Jayden and Jamal are doing charity work helping build houses. They have been assigned to put the carpet rolls in the correct rooms. However, when the carpet was received, the room labels were missing. They know the square footage of each roll and need to determine where it belongs.

Jamal gets the floor plans and sees that the rooms have the length of each wall but not the square footage. Help them find the correct room for each roll.

Bedroom 1 – 10 ft walls Bedroom 2 – 13 ft walls Study – 22 ft walls
Hallway – 3 ft × 14 ft Living Room – 14 ft × 18 ft.

8.



Answer: _____

9.



Answer: _____

10.



Answer: _____

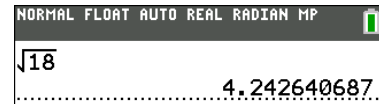
11.



Answer: _____

Part 4 – Estimating Square Roots

Estimate each of the following. Then find each to 2 decimal places using a calculator. Press 2^{nd} [$\sqrt{\quad}$], enter the number, and then ENTER .



12. $\sqrt{30}$

13. $\sqrt{42}$

14. $-\sqrt{15}$

15. $\sqrt{50}$

16. $\sqrt{\frac{1}{4}}$

17. $\sqrt{.5}$
