***Perfect Square Puzzles***

 Problems involving small, perfect squares

 **Two puzzles**

All of the shapes in these two figures are perfect squares. In each figure, find the unknown area of the white square.



2)

1)

 **Draw a square with given area**

3) Use a ruler to draw a square that has area of 49 cm2. Draw gridlines to emphasize the square centimeters.

 **Area or Perimeter?**

4) Find the perimeter of a square if the area is 64 cm2.

5) Find the area of a square if the perimeter is 64 cm.

6) Find the perimeter of a square if the area is 100 cm2.

7) Find the area of a square if the perimeter is 100 cm.

8) How are questions #4 and #6 different from questions #5 and #7? How are the approaches to solving them different?

 **Square Situations**

9) Jorge is pouring cement to build a square patio. He needs the patio to have an area of 169 ft2. How long does he need to make the sides of the patio?

10) A new teacher is setting up his classroom. He has 40 desks, and he wants to arrange most of them in a perfect square. Describe the largest square that he could form. How many desks will be left out of the square?

 **Notes**

Choose at least two different questions from two different sections of this study guide to add to your notes.

 **Create your own Perfect Square Puzzle**

11) Create a new puzzle, similar to those from questions #1 and #2. Don’t re-use any square areas that were already used in those two questions.

12) Ask somebody else solve the puzzle that you created. Ask them to sign their name on question #11.

 **Answers**

1) 49 u2 2) 16 u2 3) The side length of your square should be 7 cm long

4) p = 32 cm 5) A = 256 cm2

6) p = 40 cm 7) A = 625 cm2

9) 13 ft

10) The largest perfect square that the teacher could make is 6 rows of 6 columns. This would make a square of 36 desks, so 4 desks would be left over.