Square and Square Roots Worksheet

1. Find the square of the following numbers:
   - (a)   12
   - (b)   23

2. Find the square root of the following:
   - (a)   841
   - (b)   2401

3. If the square root of p is q, find the value of the square of q.

4. If m is the square of l^2, find the square root of m.

5. List out all the digits that a perfect square will always end with.

6. Between which two integers will the square root of 280 lie?

7. Simplify:

$$(\frac{7}{11})^2 + \sqrt{\frac{289}{121}} - \frac{1}{22}$$

8. If $1.13^2 = 1.2769$, find the value of $1.13^2 + \sqrt{\frac{1.2769 \times 127.69}{12769}}$.

9. If $21^2 = 441$, find the value of $\sqrt{44100} - \sqrt{\frac{0.0041}{0.000041}} - \sqrt{4.41}$.

10. Using the identity: $(a + b)^2 = a^2 + b^2 + 2ab$, find the value of

$$(1009)^2$$

11. The number **4** is represented as **2 × 2**, find out the following numbers which number won't be expressed as a product of similar numbers:

      a. **2401**
      b. **1681**
      c. **1521**
      d. **2682**

12. Samuel bought a square plot to build a house for his family. Each dimension of the plot is in whole numbers of yards. Which of the following can be an area (in square yards) of the plot?

      a. **861**
      b. **841**
      c. **881**
      d. **891**

13. 1157 soldiers of a regiment have to participate in a parade. They have to create a formation of soldiers which is in the shape of a square when seen from the top. Find the maximum number of soldiers who can be accommodated in the formation.

14. Rony has to rent a certain number of chairs for the annual day celebrations in his college. He was told to put the number of chairs in one row which must be half the number of the rows in the hall. Find the number of chairs he needs to hire if he will have to keep 32 chairs in one row.

15. A lawn full of grass of dimensions $27ft \times 27ft$ needs to be restructured such that a pathway of width $2ft$ needs to be built around it. Find the area of the lawn containing grass.

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ANSWERS

1)(a) 144	3) p	7)$\frac{461}{242}$	11)2682	15)$529ft^2$
1)(b)529	4) l^2	8) 1.2882	12) 841	
2)(a) 29	5)1,4,9,6,5,9,0	9) 107.9	13) 1	
2)(b) 49	6)16 and 17	10) 1018081	14) 2048	

FUN FACT

- An easy trick to remember the order of PEMDAS is "Please Excuse My Dear Aunt Sally".

- Many mnemonics following order of operations are used along with PEMDAS worldwide, like BODMAS, BEDMAS, and BIDMAS.