

Squares and Square Roots

ANSWERS

1



Find the square number between 300 and 330.

$$17^2 = 289, 18^2 = 324, 19^2 = 361$$

Answer 324

2



A rectangle is 3.6 cm long and 0.4 cm wide. A square has the same area as the rectangle. Find the length of a side of the square.

$$\text{area} = 3.6 \times 0.4 = 1.44 \text{ cm}^2$$

$$1.2 \times 1.2 = 1.44$$

Answer 1.2 cm

3



The difference between two neighbouring square numbers is 31. Find the two square numbers.

$$15^2 = 225 \text{ and } 16^2 = 256$$

$$256 - 225 = 31$$

Answer 225 and 256

4



$$1.4^2 = 1.96$$

Use this to work out $\sqrt{19\,600}$

$$19\,600 = 196 \times 100 = 14^2 \times 10^2$$

$$\sqrt{19\,600} = 14 \times 10$$

Answer 140

5



4□61 is a square number. Find the missing digit.

$$63^2 = 3969 \text{ and } 71^2 = 5041$$

$$\text{the root ends in 1 or 9: } 69^2 = 4761$$

Answer 7

6



A square has an area in cm^2 that is the same number as its perimeter in cm. Find the length of a side of the square.

$$\text{side} \times \text{side} = 4 \times \text{side, so side} = 4$$

$$\text{area } 16 \text{ cm}^2, \text{ perimeter } 16 \text{ cm}$$

Answer 4 cm

7



Square A has an area of 0.81 cm^2 . Square B has sides 4 times as long as the sides of square A. Find the area of square B.

$$\text{side of A} = 0.9 \text{ cm, side of B} = 3.6 \text{ cm}$$

$$3.6 \times 3.6 = 12.96$$

Answer 12.96 cm^2

8



The sides of a square are made 0.5 cm longer. Its area goes up by 6.25 cm^2 . Find the length of a side of the square at the start.

$$6.5^2 = 42.25 \text{ and } 6^2 = 36$$

$$42.25 - 36 = 6.25$$

Answer 6 cm