

# CHAPTER 1



## Exercise 1

### Squares, Cubes & Powers

1. Do not use a calculator in this question. Copy and complete the following :-

a  $4^2 = 4 \times 4 = \dots$

b  $7^2 = 7 \times 7 = \dots$

c  $10^2 = 10 \times \dots = \dots$

d  $2^2 = \dots \times \dots = \dots$

e  $3^2 = \dots$

f  $1^2 = \dots$

g  $(-1)^2 = \dots$

h  $(-8)^2 = \dots$

i  $(\frac{1}{2})^2 = \dots$

j  $5^3 = 5 \times 5 \times 5 = \dots$

k  $(-1)^3 = \dots$

l  $(-2)^4 = \dots$

2. You can use a calculator this time. Find the value of :-

a  $14^2$

b  $19^2$

c  $33^2$

d  $25^2$

e  $8^3$

f  $12^3$

g  $(-7)^3$

h  $(\frac{1}{2})^4$

3. Calculate the area of a square with side :-

a 3 cm

b 9 mm

c 11 m

d 3.5 cm.

4. Find :-

a  $4^2 + 5^2$

b  $9^2 + 8^2$

c  $10^2 - 7^2$

d  $9^2 - 2^2$

e  $12^2 - 10^2$

f  $2^2 + 3^2 + 5^2$

g  $10^2 + 8^2 + 6^2$

h  $13^2 - 12^2 - 5^2$

## Exercise 2

### Square Roots and Cubes

1. Copy each line and complete **without** a calculator :-

a  $\sqrt{16}$

b  $\sqrt{36}$

c  $\sqrt{100}$

d  $\sqrt{1}$

e  $\sqrt{64}$

f  $\sqrt{4}$

g  $\sqrt{25}$

h  $\sqrt{400}$

2. Write down the answer to each of the following :-

a  $\sqrt{2500}$

b  $\sqrt{10000}$

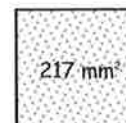
c  $\sqrt{49000000}$

d  $\sqrt{810000}$

3. Use the " $\sqrt{\quad}$ " button on your calculator to find (to 1 decimal place) :-  
 a  $\sqrt{72}$       b  $\sqrt{50}$       c  $\sqrt{131}$       d  $\sqrt{12}$       e  $\sqrt{476}$ .

4. Use your calculator to find the following (to two decimal places) :-  
 a  $\sqrt{22}$       b  $\sqrt{37}$       c  $\sqrt{45}$       d  $\sqrt{171}$       e  $\sqrt{1325}$ .

5. A square has an area of  $217 \text{ mm}^2$ .  
 Calculate the length of a side to the nearest whole number.



6. The answers to these questions are all whole numbers. Find :-  
 a  $\sqrt[3]{1000}$       b  $\sqrt[3]{8}$       c  $\sqrt[3]{27}$       d  $\sqrt[4]{81}$       e  $\sqrt[5]{32}$ .

### Revisit - Review - Revise 1



1. Find the area of a square with side :-  
 a 9 mm      b 30 cm      c 0.5 m.
2. Find :-  
 a  $2^2$       b  $3^2$   
 c  $5^2$       d  $10^2$       e  $1000^2$ .
3. Find :-  
 a  $3^3$       b  $2^4$   
 c  $10^4$       d  $3^5$       e  $(-1)^{21}$ .
4. Find :-  
 a  $\sqrt{64}$       b  $\sqrt{100}$   
 c  $\sqrt{1}$       d  $\sqrt{81}$       e  $\sqrt{1000000}$ .

*You may use a calculator for questions 5 & 6.*

5. Calculate (to 2 significant figures) the area of a square with side :-  
 a 37 cm      b 7.8 mm      c 165 m.
6. Find to one decimal place :-  
 a  $16 \cdot 5^2$       b  $2 \cdot 1^2$       c  $3 \cdot 14^2$   
 d  $1 \cdot 75^3$       e  $3 \cdot 4^4$       f  $3 \cdot 6^5$ .