

MATHEMATICS



Topic: Squares, cubes, square roots and cube roots.

- ❖ When squaring or cubing decimal fractions, use the principles for multiplying decimal fractions, and be aware of the number of decimal places the answer should have.

for example:

$$0,2^2 = 0,2 \times 0,2 = 0,04 \text{ Two decimal places in the answer.}$$

$$0,2^3 = 0,2 \times 0,2 \times 0,2 = 0,008 \text{ Three decimal places in the answer.}$$

- ❖ When finding the square root or cube root of decimal fractions, also take into account the number of decimal places required:

For examples:

$$\sqrt{0,0049} = 0,07 \text{ because } 0,07 \times 0,07 = 0,0049$$

$$\sqrt[3]{0,064} = 0,4 \text{ because } 0,4 \times 0,4 \times 0,4 = 0,064$$

Worked Examples

1. Calculate

$$\begin{aligned}(1,2)^2 \\ &= 1,2 \times 1,2 \\ &= 1,4\end{aligned}$$

2. $0,5^2 + 0,2^3$

$$\begin{aligned}&= 0,5 \times 0,5 + 0,2 \times 0,2 \times 0,2 \\ &= 0,25 + 0,008 \\ &= 0,258\end{aligned}$$

3. $\sqrt{0,25}$

$$\begin{aligned}&= \sqrt{0,5 \times 0,5} \\ &= 0,5\end{aligned}$$

4. $\sqrt[3]{0,027}$

$$\begin{aligned}&= \sqrt[3]{0,3 \times 0,3 \times 0,3} \\ &= 0,3\end{aligned}$$

Exercise 14.8

2.

2.1

2.2

2.3

2.4

3.

3.1

3.2

3.3