Mrs Mountney 's Helpful Hints
-Fractional Indices

Exam Style Question:

$$Simplify \quad 16^{\frac{3}{2}}$$

Clue

$$x^{\frac{a}{b}}$$

b is the root and a is the power

Answer:

$$Simplify \quad 16^{\frac{3}{2}}$$

Becomes

$$\left(\sqrt{16}\right)^3$$
$$= 4^3$$
$$= 64$$

Steps to Success

- Find the root first
- Then raise the answer to the power

Exam Style Question:

$$Simplify \ 125^{-\frac{2}{3}}$$

Clue

$$x^{-\frac{a}{b}}$$

b is the root and a is the power, the negative means take the reciprocal

Answer:

$$= \left(\sqrt[3]{125}\right)^{-2}$$
$$= \left(5^2\right)^{-1}$$
$$= \frac{1}{25}$$

Steps to Success

- Find the root first
- Then raise the answer to the power
- Then find the reciprocal