

Estimating Powers and Roots *ramp up*

ANSWERS

a Estimate $\sqrt{63} \times \sqrt{8.9}$ <i>about 24</i> a product of roots	b Estimate $\sqrt[4]{80}$ to the nearest whole number <i>3</i> a fourth root	c Between which two whole numbers does $\sqrt{7 \times 12}$ lie? <i>9 and 10</i> the root of a product	d Estimate $2\sqrt{50}$ to the nearest whole number <i>14</i> a multiple of a root
e Estimate $26.6^{-\frac{2}{3}}$ <i>about $\frac{1}{9}$</i> a negative fractional power	f Which is larger, $\sqrt[3]{30}$ or $\sqrt{10}$? <i>$\sqrt{10}$</i> close roots: compare sixth powers	g Find the smallest whole number n with $\sqrt[3]{n} > 4.5$ <i>92</i> a cube root bound turned round	h $\sqrt{a} = 6.1$ to 1 dp and a is a whole number. Find a . <i>$a = 37$</i> back from a rounded root
i Estimate $\sqrt{6.3 \times 10^5}$ to 2 significant figures <i>790</i> a root of a number in standard form	j $\sqrt{2} \approx 1.41$. Estimate $\frac{1}{\sqrt{2}}$ to 2 decimal places <i>0.71</i> rationalise to estimate	k Estimate $10^{1.5}$ to the nearest whole number <i>32</i> a decimal index	l Estimate $1000^{-0.5}$ to 1 significant figure <i>0.03</i> a negative decimal index

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