

2. Squares and square roots

1.	$\sqrt[3]{\frac{0.125 \times \sqrt{64}}{0.064 \times \sqrt{629}}}$ $= \sqrt[3]{\frac{0.125 \times 8}{0.064 \times 27}}$ $= \sqrt[3]{\frac{0.5^3 \times 2^3}{0.4^3 \times 3^3}}$ $= \frac{0.5 \times 2}{0.4 \times 3}$ $= \frac{1.0}{1.2}$ $= \frac{1 \times 10}{1.2 \times 10}$ $= \frac{10}{12}$ $= \frac{5}{6} = 0.83(2dps)$	M1 M1 M1 A1	
		04	
2.	19.901×10^2 $19.901 + 1 = 1991.1$ $\underline{1991.1}$ 0.07245 $1991.1 \times 0.1380 \times 10^2$ $= 165.77$	M1 M1 A1	For ✓ square For ✓ rec
		03	
3.	$\frac{\sqrt{(1.800324)^2}}{0.8462}$ $\frac{1.800324}{0.8462}$ 2.127539589 $\simeq 2.128$	M1 M1 A1	$\frac{\sqrt{3.241166505}}{0.8462}$
		03	
4.	$2 \times 10 \times 0.01697 \times -1.06 \times 0.1182 \times 10^{-2}$ $= 3.393$ $= \sqrt{3.393}$ $= 1.842$	B1 B1 B1	Both reciprocals

5. (a) (i) 24.78
(ii) 0.0316
(b) $24.78 - 0.0316 = 24.75$ MI AI

$$6. \quad 3x \frac{1}{1.36 \times 10^{-2}} - 2x \frac{1}{13.84}$$

$$\begin{aligned} & 3x 8.575 - 2x 0.07224 \\ & = 25.725 - 0.14448 \\ & = \underline{\underline{25.58052}} \end{aligned}$$

$$= \underline{\underline{25.58}}$$

$$7. \quad \frac{153 \times 1.8}{0.68 \times 0.32}$$

$$\sqrt{\frac{158 \times 1.8 \times 10000}{0.68 \times 0.32 \times 10000}}$$

$$\sqrt{\frac{158 \times 18000}{68 \times 32}} = \sqrt{\frac{9 \times 9000}{4 \times 16}}$$

$$\sqrt{\frac{9 \times 9 \times 10^3}{4 \times 16}} = \frac{9 \times 10^{3/2}}{8}$$

$$1.125 \times 10^{3/2}$$