

## 2. Squares and square roots

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

5. (a) (i) 24.78  
(ii) 0.0316  
(b)  $24.78 - 0.0316 = 24.75 \quad M1 \quad A1$

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

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

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

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

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

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

$$\sqrt{\frac{9 \times 9 \times 10^3}{4 \times 16}} = \underline{\underline{9 \times 1 \times 10^3 /_2}}$$

$$8$$

$$1.125 \times 10^3 /_2$$