	Indices Mark Scheme:	
1(a)	$x^2 \times x^8 = x^{(2+8)} = x^{10}$	**[1]**
1(b)	$a^2 \div a^8 = a^{(2-8)} = a^{-6}$	**[1]**
1(c)	$(y^2)^8 = y^{2 \times 8} = y^{16}$	**[1]**
2(a)	$(4x)^{-2} = \dfrac{1}{(4x)^2} = \dfrac{1}{16x^2}$	**[1]**
2(b)	$8^{\frac{2}{3}} = \left(\sqrt[3]{8}\right)^2 = (2)^2 = 4$	**[1]**
2(c)	$4^{-\frac{3}{2}} = \dfrac{1}{\left(\sqrt{4}\right)^3} = \dfrac{1}{8}$	**[1]**
2(d)	$\sqrt{81^{\frac{1}{2}} \times 2^4} = \sqrt{9 \times 16}$	**[1]** – Correct simplifying $\sqrt{9 \times 16}$
	$= \sqrt{144} = 12$	**[1]** – Correct answer
3	$\dfrac{5^2 \times 5^{-4}}{5^3} = \dfrac{5^{2+(-4)}}{5^3}$	**[1]** – Simplifying
	$= 5^{(-2-3)} = 5^{-5}$ or $\dfrac{1}{5^5}$ or $\dfrac{1}{3125}$	**[1]** – Answer
4	$\dfrac{10x^{2+4}y^{3+(-2)}}{10x^6 y}$	**[1]** – Simplifying
	$= \dfrac{10x^6 y}{10x^6 y} = 1$	**[1]** – Answer
5	$\dfrac{25^5}{5^3} = \dfrac{(5^2)^5}{5^3}$	**[1]** – Simplifying
	$= \dfrac{5^{10}}{5^3} = 5^7$	**[1]** – Answer

6(a)	9	**[1]**
6(b)	8	**[1]**
6(c)	512	**[1]**
7(a)	$\sqrt[3]{y} = y^{\frac{1}{3}}$	**[1]**
7(b)	$\dfrac{1}{y\sqrt{y}} = (y\sqrt{y})^{-1}$	**[1]** – Correct bracket
	$= \left(\sqrt{y^2 y}\right)^{-1}$	**[1]** – Correct use of square root
	$= (y^3)^{-\frac{1}{2}} = y^{-\frac{3}{2}}$	**[1]** – Answer
7(c)	$\sqrt{2\dfrac{1}{4}} = \sqrt{\dfrac{9}{4}} = \dfrac{\sqrt{9}}{\sqrt{4}}$	**[1]** – Fraction and roots correctly applied
	$= \dfrac{3}{2} = 1.5$	**[1]** – Answer