

CHAPTER 7

Ex A

- 1) $5b^6$ 2) $6c^7$ 3) b^3c^4 4) $-12n^8$ 5) $4n^5$ 6) d^2 7) a^6 8) $-d^{12}$

Ex B

- 1) 2 2) 3 3) $1/3$ 4) $1/25$ 5) 1 6) $1/7$ 7) 9 8) $9/4$ 9) $1/4$ 10) 0.2
 11) $4/9$ 12) 64 13) $6a^3$ 14) x 15) xy^2

CHALLENGE QUESTIONS

Question 1

$$4^5$$

Question 2

$$x = \frac{1}{2} \text{ or } x = -\frac{3}{2}$$

Question 3

$$9$$

Note that $8^m = (2^3)^m = 2^{3m} = (2^m)^3$ and $27 = 3^3$; so $2^m = 3$. Therefore $4^m = 2^m \times 2^m = 9$.

Question 4

$$625$$

625	2	M1 for 3^{4n} or 5^4 or $(3^{-n})^{-4}$ or 0.2^{-4}
		A1 625

Question 5

$$\frac{x}{y} = 144$$

$\sqrt{x} = 6$ or $x = 6^2$ or $x = 36$	M1	
$\frac{1}{y^3} = 64$ or $y^3 = \frac{1}{64}$	M1	
$y = \frac{1}{4}$	A1	
144	A1ft	ft Their $x \div$ their y if $y \neq$ integer

Question 6

$$n = \frac{11}{8}$$

$b\sqrt{b}$ is $b \times b^{\frac{1}{2}}$, add the powers for $b^{\frac{3}{2}}$

$$\sqrt[8]{b} = b^{\frac{1}{8}}$$

Then take away powers as you are dividing

Question 7

$$x = 1 \text{ and } x = -5$$

Question 8

$$27x^{19}y^{-1}$$