Exam-style questions

1 Write an expression in terms of n for:

a the sum of a number and 12

b twice a number minus four

c a number multiplied by x and then squared

d the square of a number cubed.

2 Simplify:

a $9xy+3x+6xy-2x$ **b** $6xy-xy+3y$

3 Simplify:

a $\dfrac{a^3b^4}{ab^3}$ **b** $2(x^3)^2$ **c** $3x\times 2x^3y^2$

d $(4ax^2)^0$ **e** $4x^2y\times x^3y^2$

4 What is the value of x, when:

a $2^x=32$ **b** $3^x=\dfrac{1}{27}$

5 Expand each expression and simplify if possible.

a $5(x-2)+3(x+2)$ **b** $5x(x+7y)-2x(2x-y)$

6 Find the value of $(x+5)-(x-5)$ when:

a $x=1$ **b** $x=0$ **c** $x=5$

7 Simplify and write the answers with positive indices only.

a $x^5\times x^{-2}$ **b** $\dfrac{8x^2}{2x^4}$ **c** $(2x-2)^{-3}$

8 If $x\neq 0$ and $y\neq 0$, simplify:

a $3x^{\frac{1}{2}}\times 5x^{\frac{1}{2}}$ **b** $(81y^6)^{\frac{1}{2}}$ **c** $(64x^3)^{\frac{1}{3}}$