In questions **1–10**, use exponent laws to simplify the expression as far as possible.

1 $a^5 \times a^3 \times a^7$

2 $2x^3 y^2 \times 7x^4 y^6$

3 $4ab^3 \times 0.5a^6c$

4 $\dfrac{8m^5}{4m^3}$

5 $\dfrac{6u^5v^2}{9u^3v^3}$

6 $(3rs^3)^3$

7 $(-2x^4 yz^5)^3$

8 $\left(\dfrac{x^{12}y^8}{x^5y^6}\right)^2$

9 $\dfrac{(5x)^2(5y^3)}{(5x^3y^4)^3}$

10 $\dfrac{9x^3(y^3)^3}{-81(x^{-2})^4 y^{11}}$

11 Find an expression for the area of a square with side length $3x^2y$. Write your answer in its simplest form.

12 Find the area of a rectangle with width $4a^3b^2$ and length $\dfrac{5a}{2b^3}$. Write your answer in its simplest form.