# Multiplying/dividing algebraic terms

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

**1.** Simplify $(4x)(3y)$. [2 marks]

Multiply coefficients and retain both variable factors.

**Answer:** $12xy$

**2.** Simplify $(-2a)(6a)$. [2 marks]

$-2 \times 6 = -12$ and $a \times a = a^2$.

**Answer:** $-12a^2$

**3.** Simplify $\frac{21xy}{7x}$ for $x \neq 0$. [2 marks]

Divide 21 by 7 and cancel $x$.

**Answer:** $3y$

**4.** Simplify $\frac{24m^2}{6m}$ for $m \neq 0$. [2 marks]

Divide coefficients to get 4.

Cancel one common factor $m$.

**Answer:** $4m$

**5.** Simplify $(3p)(-2q)(2)$. [2 marks]

Numerical product: $3(-2)(2) = -12$.

Keep $p$ and $q$.

**Answer:** $-12pq$

**6.** Why does $\frac{8t}{2t} = 4$ require $t \neq 0$? [3 marks]

Cancellation divides by $t$.

Division by zero is not allowed.

**Answer:** At $t = 0$, the original denominator is zero and the quotient is undefined.