QUESTION 5 Simplify the following.

a $5 \times d =$ _____ **b** $6 \times a \times c =$ _____ **c** $a \times b \times c =$ _____

d $8 \times x \times y =$ _____ **e** $15 \times m \times l \times n =$ _____ **f** $4 \times a \times c =$ _____

g $x \times y \times 7 =$ _____ **h** $8 \times 2 \times a \times b =$ _____ **i** $5 \times c \times d \times e =$ _____

QUESTION 6 Write the following expressions in expanded form.

a $3ab =$ _____ **b** $5xyz =$ _____

c $7mnt =$ _____ **d** $6m =$ _____

e $8abc =$ _____ **f** $9alm =$ _____

g $15xy =$ _____ **h** $11de^2f =$ _____

QUESTION 3 Write the following expressions by showing all multiplication or division signs.

a $3m =$ _____ **b** $2x =$ _____ **c** $7y =$ _____

d $3n - 1 =$ _____ **e** $4m + 5 =$ _____ **f** $20 - 3a =$ _____

g $xy - 6 =$ _____ **h** $k - 4l =$ _____ **i** $xyz =$ _____

j $19xy =$ _____ **k** $6a^2 + 1 =$ _____ **l** $m^2 - n^2 =$ _____

QUESTION 1 Work out the following divisions.

a $\frac{18a}{6} =$ _____ **b** $\frac{9pq}{3} =$ _____ **c** $\frac{12m}{15m^2} =$ _____

d $\frac{15x}{5} =$ _____ **e** $\frac{21xy}{7x} =$ _____ **f** $\frac{18a^2}{3a} =$ _____

g $\frac{12a}{6} =$ _____ **h** $\frac{36x^2}{4x} =$ _____ **i** $\frac{30y}{10y^2} =$ _____

QUESTION 2 Find the following divisions.

a $15x \div 5x =$ _____ **b** $-36xy \div -9x =$ _____

c $12mn \div 4m =$ _____ **d** $64m^2 \div 8m =$ _____

e $5x \div -5 =$ _____ **f** $(-48ab) \div (-6a) =$ _____

g $8x \div 2x =$ _____ **h** $72a^2 \div 9a =$ _____

i $32xy \div 8x =$ _____ **j** $15ab \div (-5a) =$ _____

k $27ab \div 9a =$ _____ **l** $16x^2y \div 4xy =$ _____

7 Simplify these quotients.

a $10b \div 2$ **b** $21z \div 7$ **c** $18k \div 3$ **d** $40m \div 5$

e $6w \div w$ **f** $32n \div 4n$ **g** $ab \div b$ **h** $pqr \div pr$

i $50gh \div 5h$ **j** $42mn \div 6m$ **k** $30xy \div 3y$ **l** $54cde \div 9cd$

9 Simplify:

a $\frac{-12c}{3}$ **b** $\frac{-49n}{-7}$ **c** $\frac{27k}{-9k}$ **d** $\frac{-36ef}{4e}$

e $\frac{-84mnp}{-12mp}$ **f** $\frac{63k^2}{-7k}$ **g** $\frac{-25t^2}{-5t}$ **h** $\frac{-96u^2v}{8uv}$

12 Simplify, giving your answers in simplest fraction form.

a $5c \div 10$ **b** $2 \div 2k$ **c** $9h \div 6$ **d** $4ab \div 12a$

e $12mn \div 20n$ **f** $14u \div 21uv$ **g** $25cd \div 35de$ **h** $42s^2 \div 49s$

i $18uv \div 27v^2$ **j** $35x^2 \div 60xy$ **k** $36abc \div 44bcd$ **l** $72e^2f \div 56ef^2$

3 Simplify each expression using the order of operations.

a $5k + 3k \times 2$ **b** $20z - 14z \div 2$ **c** $4n \times 2n + 7n^2$

d $25v^2 - 6v \times 4v$ **e** $22ab - 5a \times 3b$ **f** $28pq \div 4p + 6q$

g $18ef - 12ef \div 3$ **h** $7y + 20xy \div 4x$ **i** $7 \times 2s - 5s \times 2$

4 Express each of these in simplest form.

a $\dfrac{10x \times 6}{4 \times 3x}$ **b** $\dfrac{19u + 9u}{13u - 6u}$ **c** $\dfrac{8p \times 3q}{12p - 6p}$ **d** $\dfrac{33rs - 15sr}{3r \times 2s}$

QUESTION **5** Simplify the following.

a $\dfrac{8x \times 9y}{12xy} =$ _____ **b** $\dfrac{15a \times 8b}{10ab} =$ _____ **c** $\dfrac{8a \times 5b}{3a \times 4b} =$ _____

d $\dfrac{(6ab)^2 \times ab}{9a^3b} =$ _____ **e** $\dfrac{(3a)^2 \times (4b)^2}{24ab} =$ _____ **f** $\dfrac{(-2x) \times (-3) \times (-5x)}{-6x \times -5} =$ _____

QUESTION **2** Simplify these divisions.

a $a^{12} \div a^8 =$ _____ **b** $36m^6 \div 9m^4 =$ _____ **c** $20a^8b^7 \div 5a^7b^6 =$ _____

d $a^{15} \div a^7 =$ _____ **e** $k^{15} \div k^{10} =$ _____ **f** $12a^6b^9 \div 6a^4b^4 =$ _____

QUESTION **5** Simplify the following.

a $\dfrac{8x \times 9y}{12xy} =$ _____ **b** $\dfrac{15a \times 8b}{10ab} =$ _____ **c** $\dfrac{8a \times 5b}{3a \times 4b} =$ _____

d $\dfrac{(6ab)^2 \times ab}{9a^3b} =$ _____ **e** $\dfrac{(3a)^2 \times (4b)^2}{24ab} =$ _____ **f** $\dfrac{(-2x) \times (-3) \times (-5x)}{-6x \times -5} =$ _____