1 Write algebraic expressions for the following.

3 lots of x

one more than a

5 less than 2m

4 times the sum of x and y

2 Find the value of the following when x = 4 and y = 7.

5x

2y + 3

xy − 5

2(x + y)

3 Decide whether the following pairs of terms are like terms.

6x and 8

3a and 7a

4xy and 2yx

$3x^2$ and 10x

4 Simplify:

3m + 5m

8ab − 3ab

4x + 3y + 2x + 5y

2 × 4 × x

5 × a × 3 × b

6y ÷ 2

Expand:

2(x + 5)

3(y − 2)

4(2x − 3)

x(3x + 1)

6 Find the HCF (highest common factor) of these pairs of terms.

8, 12

18, 30

7a, 14a

$2xy$ and $8xz$

$5x$ and $8x^2$

$7x^2y$ and $21xy^2$

7 Simplify:

$\frac{3}{8}+\frac{2}{5}$

$\frac{6}{7}-\frac{1}{3}$

$\frac{5}{9}\times\frac{2}{5}$

$\frac{2}{3}\div\frac{4}{9}$

8 Write each of the following in index form

(e.g. $5 \times 5 \times 5 = 5^3$)

$7 \times 7 \times 7 \times 7$

$m \times m \times m$

$x \times x \times y \times y \times y$

$3a \times 3a \times 3a \times 3a \times 3a$

9 Evaluate:

$7^2$

$3^3$

$2^4$

$4^3$

10 Write the following as 3 raised to a single power.

$3^4 \times 3^5$

$3^7 \div 3^5$

$(3^2)^5$

$\frac{1}{3^2}$

11 Complete the following.

$3.8 \times 10 =$

$2.31 \times 1000 =$

$17.2 \div 100 =$

$0.18 \div 100 =$

$3827 \div$_____ $= 3.827$

6.49 ×_____ = 64 900