1. a) List the individual terms in the expression $5a + b + 14c$.

   b) State the coefficient of each pronumeral in the expression $5a + b + 14c$.

   c) Give an example of an expression with exactly two terms, one of which is a constant term.

2 Write an expression for each of the following.

   a) 3 more than a

   b) 5 less than m

   c) the sum of a and b

   d) double the value of y

   e) the product of a and b

3. Write an expression for each of the following without using the x or ÷ symbols.

   a) a is halved, then 6 is added

   b) the sum of a and b is taken and then divided by 3

   c) the sum of a and one-third of b

   d) 7 is subtracted from y and the result is tripled

4 Given that a = 5, evaluate:

   a) $a + 7$　　　　　　　　b) 8a　　　　　　　　c) $\dfrac{10}{a} + 4 - a$

5 Substitute x = 4 and y = 7 to evaluate these expressions.

   a) $5x + y + 8$　　　　　　b) $80 - (2xy + y)$

6 If p = 4 and t = 5, find the value of:

   a) $3p^2$　　　　　　　　　b) $t^2 + p^3$　　　　　　c) $\sqrt{p^2 + 3^2}$

7 Which two of these expressions are equivalent: $3x + 4$, $8 - x$, $2x + 4 + x$?

8 Which of the following pairs are like terms?

   a) 3a and 2a   b) 3b and 3c   c) 2ab and 5ba   d) 4k and k   e) 2a and 4ab

9 Simplify the following by collecting like terms.

   a) $7b + 2 + 3b$

   b) $12d - 4d + d$

   c) $5 + 12a + 4b - 2 - 3a$

   d) $13a + 8b + 2a - 5b - 4a$

   e) $12uv + 7v - 3vu + 3v$

10 Write 4 x a x b x c without multiplication signs.

11 Simplify 4a x 2b x 3c, giving your fi nal answer without multiplication signs.

12 Simplify 3w x 4w.

13 Write $(2a + 1) \div 3$ without a division sign.

14 Simplify the expression $\dfrac{8ab}{12b}$

15 Expand the following expressions.

   a) $5(x + 3)$

   b) $8(a - 4)$

   c) $3(a + 2b)$

   d) $5a(3p - 7q)$

Answers

1. a) 5a, b, 14c .

    b) coefficient of a is 5   coefficient of b is 1   coefficient of c is 14 .

    c) An example is 2a + 7 you could a different example – check

2. a) a + 3

    b) m – 5

    c) a + b

    d) 2 x y

    e) a x b

3. a) $\dfrac{a}{2} + 6$

    b) $\dfrac{a+b}{3}$

    c) $a + \dfrac{b}{3}$

    d) 3(y – 7)

4   a) 12   b) 40   c) 1

5   a) 35   b) 17

6   a) 48   b) 89   c) 5

7   3x + 4 and 2x + 4 + x ?

8   a) yes   b) no   c) yes   d) yes   e) no

9   a) 10b + 2

    b) 9d

    c) 5 + 9a + 4b + 3

    d) 11a + 3b

    e) 9uv + 10v

10 4abc

11 24abc

12 $12w^2$.

13 $\dfrac{2a+1}{3}$

14 Simplify the expression $\dfrac{2a}{3}$

15 Expand the following expressions.

   a) 5x + 15

   b) 8a – 32

   c) 3a + 6b

   d) 15ap – 35aq