

## 1. True or False.

- a) "-x" has a numerical coefficient of 1 \_\_\_\_\_
- b) The literal coefficient of  $5x^2$  is  $5x$ . \_\_\_\_\_
- c) A binomial is a polynomial with exactly two terms. \_\_\_\_\_
- d) Expanding involves the distributive property. \_\_\_\_\_
- e)  $x^2$  and  $x^3$  cannot be collected into one term. \_\_\_\_\_

## 2. State the numerical and literal coefficients in each term below.

Term	Numerical	Literal
$-3x^5$		
$x^2y$		
$\frac{-y^2}{3}$		
$\frac{2x^3y^4}{5}$		

## 3. Circle the like terms in each set of terms.

- a)  $x^4$   $2x^3$   $-3x^4$   $4x$   $\frac{x^3}{4}$       b)  $xy^2$   $x^2y$   $2xy^2$   $-x^2y^2$

## 4. State the degree of each term.

- a)  $x^5$  \_\_\_\_\_      b)  $x^4y^3$  \_\_\_\_\_      c) 8 \_\_\_\_\_

## 5. State the degree of each polynomial.

- a)  $x^2 + 3x - 8$  \_\_\_\_\_      b)  $x^2y + xy - 3x$  \_\_\_\_\_      c)  $-5x^2y^3 + 5xy^3 + x^4y^3$  \_\_\_\_\_

6. Simplify fully.

a)  $2x + 8 - 6x + 3$

b)  $5x + 7y - 5 + 6 - 3x - 2y - 2$

c)  $3x^2 - 6x - 3 - x^2 + 5x + 4$

d)  $2x^2 - (-3x) + 1 + (-5x^2) - (-4)$

e)  $(4x - 3y) + (2x - 3y)$

f)  $(5x - 3y) - (3x - 4y)$

g)  $4(3x - 1)$

h)  $-2(4x - 5y + 2)$

i)  $5(x - 2) + 3(4x + 1)$

j)  $5(2x^2 - 3x + 1) - 3(x^2 - 4x + 3)$

7. Simplify fully.

a)  $5x^2y^3 - 3xy^2 + 5xy^3 - 3x^2y^3 - 2xy^2$

b)  $2(3x^2 + 4x) - 3(x^2 - 1) + 5(3x + 1)$

8. Evaluate for  $x = -4$ ,  $y = 2$  and  $z = -1$

$$(y - x)^2$$

9. Simplify first then evaluate for  $x = 3$  and  $y = -4$ .

$$2(5x - 3y) - 2(2x - y)$$

10. The rectangle below has algebraic expressions for the length and width of its sides. Determine the perimeter of the rectangle in simplified form.

