

IOPWI ALGEBRA BASICS

1. Consider $8x^3 + 9xy - 2 + 7y - 6y^2$

- a. Is this an equation or expression?
- b. How many terms?
- c. Are there any like terms (yes/no)?
- d. What is coefficient of y ?
- e. What is the value of the constant?

2. Expand

- a. $2a(6b + 15)$
- b. $-6(-x + 6)$
- c. $-3x(2y - x + 5)$

3. Factorise

- a. $12x + 15$
- b. $40a^2 + 30a$
- c. $-25x^2 - 125x$

4. Simplify

- a. $7x + x + 8x$
- b. $3j - 9j + 4$
- c. $7xy + 2xy - 7$
- d. $14x + 6y - 2x + 11y$
- e. $-6x \times 2y$

f. $-6pq \times (-4p)$

g. $\frac{8xy}{12x}$

h. $-\frac{28ab}{56b^2}$

5. If $a = 19$, $b = 2$ and $c = -5$, evaluate:

- a. $ab + c$
- b. $2a - c$
- c. $bc - a$