

WORKSHEET | Algebra Revision

Understanding and working with algebra is *essential* throughout all the topics in the year 10 maths course. Answer the following questions to refresh your memory of *expanding* and *factorising*.

1. Expand the following, and observe any patterns that emerge.

- a. $(a + b)^2$
- b. $(a - b)^2$
- c. $(a + b)^3$
- d. $(a - b)^3$

2. Keeping the above expansions in mind, expand the following:

- a. $(x - 3)(2x^2 + 3x + 1)$
- b. $(3x^2 - 5x + 2)(2x - 4)$
- c. $(x - 1)(x - 1)(x - 2)$
- d. $(2x + 1)^2$
- e. $(3y - x)^2$
- f. $(5m + 2n)^3$
- g. $(a^2 + b^2)^3$

3. Factorise the following:

- a. $a(x + 2) + b(x + 2)$
- b. $ax + 4a + bx + 4b$
- c. $x(1 - x) + 3(x - 1)$
- d. $xw - yw + xy - y^2$
- e. $a^3 - a^2b - ab + b^2$

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