

Identities

Example)

$$\text{if } a\sqrt{2} + b\sqrt{5} + c = 3\sqrt{2} + 2\sqrt{5} + 4, \text{ then } a = 3, b = 2, c = 4$$

$$\text{if } ax^2 + bx + c = 3x^2 + 2x + 4, \text{ then } a = 3, b = 2, c = 4$$

$$\text{if } ai + b = 3i + 5, \text{ then } a = 3, b = 5$$

Exercise

1. If $(2a - b)x^2 + (a + 2b)x + 8 = 4x^2 - 3x + 8$, for all x , find the values of a and b .
2. If $x^3 + 3x^2 - 9x + c$ can be expressed in the form $(x - a)^2(x - b)$, find the values of a , b and c .
3. If $(2a - b)\sqrt{2} + (a + 2b) = 4\sqrt{2} + 7$, find the values of a and b .
4. If $(2a + b)i + (a - 2b) = 4i + 7$, find the values of a and b .