

QUADRATIC EQUATION

1. Factorize the following.

- a. $x^2 + 5x + 6$
- b. $3x^2 + 13x + 4$
- c. $X^2 + 3x + 2$
- d. $X^2 - 6x + 8$
- e. $2x^2 + 3x + 1$
- f. $X^2 - 10x + 25 = 0$
- g. $2x^2 + x - 6 = 0$
- h. $X^2 - 16 = 0$
- i. $X^2 - 14x + 49 = 0$

2. Solve for x

- a. $(x + 4)(x - 3) = 0$
- b. $5x^2 + 15x = 0$
- c. $(x - 2)(x - 8) = 0$
- d. $3(3x - 2)(2x + 1) = 0$
- e. $50x^2 - 72 = 0$
- f. $x(2x - 1) = 3$
- g. $(x + 1)(x - 3)$
- h. $x^2 + 10x + 25$
- i. $X^2 - 10x + 25$
- j. $x^2 + 6x - 11 = 0$

3. What must be added to the following expressions to make them perfect squares?

- a. $x^2 + 12x$
- b. $x^2 + 16x$
- c. $X^2 + 8x$
- d. $x^2 + bx$

4. What must be added to the following expressions to make perfect squares?

- a. $x^2 + \underline{\hspace{1cm}}x + 100$
- b. $x^2 + \underline{\hspace{1cm}}x + 16$
- c. $x^2 + \underline{\hspace{1cm}}x + c$

5. Solve using completing square.

- a. $x^2 + 2x - 7 = 0$
- b. $X^2 - 5x + 2 = 0$
- c. $x^2 - 8x + 13 = 0$
- d. $x^2 - 8x - 30 = 0$
- e. $2x^2 + 4x + 2 = 0$

f. $2x^2 + 3x - 7 = 0$

g. $3x^2 + 7x - 4 = 0$

h. $2x^2 + 9x + 9 = 0$

i. $Ax^2 + bx + c = 0$