

III. Completing the Square (Page 112)

To **complete the square** for the expression $x^2 + bx$, add _____, which is the square of half the coefficient of x .

When solving quadratic equations by completing the square, you must add this term to _____ in order to maintain equality.

The completing the square method can be used to solve a quadratic equation when . . .

When completing the square to solve a quadratic equation, if the leading coefficient is not 1, . . .

Example 3: Solve $x^2 + 10x - 8 = 0$ by completing the square.

What you should learn
How to solve quadratic equations by completing the square

IV. The Quadratic Formula (Pages 113–114)

The verbal statement of the Quadratic Formula is . . .

When using the Quadratic Formula, remember that before the formula can be applied, . . .

Example 4: For the quadratic equation $16 - 3x = -2x^2$, find the values of a , b , and c to be substituted into the Quadratic Formula.

What you should learn
How to use the Quadratic Formula to solve quadratic equations

The **discriminant** of the quadratic expression $ax^2 + bx + c$ can be used to . . .

If the discriminant $b^2 - 4ac$ of the quadratic equation

$ax^2 + bx + c = 0$, $a \neq 0$, is:

1) positive, then the quadratic equation . . .

2) zero, then the quadratic equation . . .

3) negative, then the quadratic equation . . .

Example 5: Use the discriminant to find the number and type of solutions of the quadratic equation

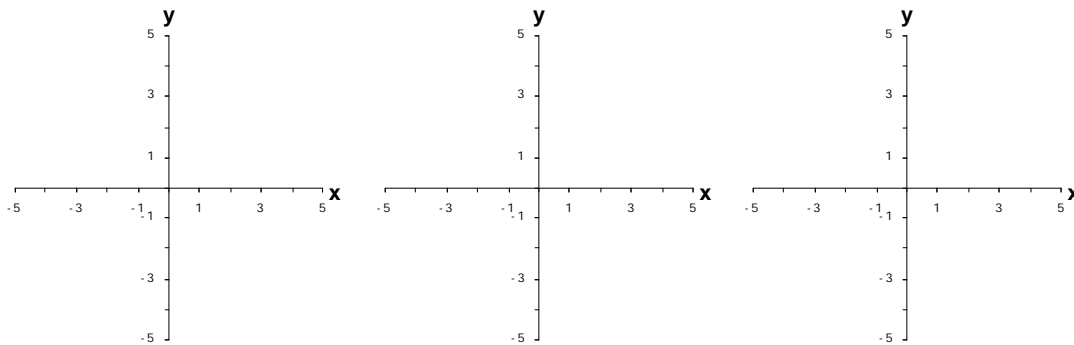
$$6x^2 - 5x + 18 = 0.$$

V. Applications of Quadratic Equations (Pages 115–118)

Describe two real-life situations in which quadratic equations often occur.

What you should learn
How to use quadratic equations to model and solve real-life problems

The **position equation** giving the height of an object above earth's surface is _____, where . . .

Additional notes**Homework Assignment**

Page(s)

Exercises