

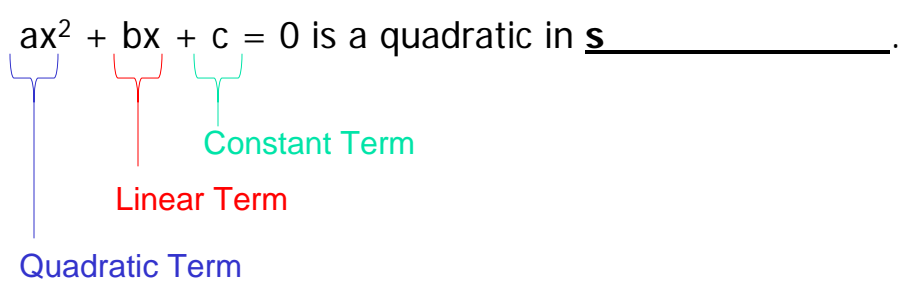
# 5.6 Solving Quadratic Equation

- Need To Know
  - Vocabulary and facts
  - Solving quadratic equations



## Vocabulary

Definition – a **q**\_\_\_\_\_ is one that can be put in the form  $ax^2 + bx + c = 0$  where a, b, & c are real numb. ( $a \neq 0$ ).



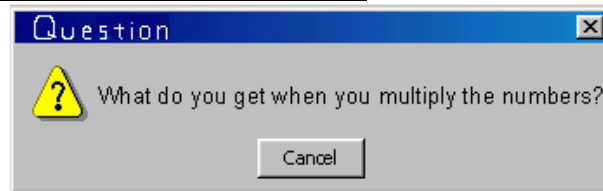
## Vocabulary

Definition – The **d**\_\_\_\_\_ of a polynomial in one variable is the exponent from the term with the highest power.

Fact – The degree of an equation indicates the \_\_\_\_\_.

## The Principle of Zero Products

### Illustrate the Main Idea



### The Principle of Zero Products

For real numbers a and b,

if  $a \cdot b = 0$ , then \_\_\_\_\_



## Solve Quadratic Equations

$$x^2 + 6x + 8 = 0$$

### Steps to Solve Q.E.

1. Set up must = 0
2. Factor completely
3. Solve each factor for zero
4. Check solutions



## Solve Quadratic Equations

Solve for x:

$$2x^2 + 5x = 3$$

### Steps to Solve Q.E.

1. Set up must = 0
2. Factor completely
3. Solve each factor for zero
4. Check solutions



## Solve Quadratic Equations

---

Solve for a:

$$49a^2 - 16 = 0$$

Solve for z:

$$5z^2 = -2z$$



## Solve Quadratic Equations

---

Solve for w:

$$w(w - 13) = -40$$

Solve for x:

$$(x + 3)(3x + 5) = 7$$

end