Chapter 7

Factoring Polynomials
Which of the following is true?

A.) \(-4x^2 + 12x\) can be factored as \(-4x \cdot x - 3\) or \(4x \cdot -x + 3\).

B.) Because a monomial contains one term, it follows that a monomial can be factored in precisely one way.

C.) The GCF for \(8x^3 - 16x^2\) is \(8x\).
Which of the following is true?

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C.) The GCF for \(8x^3 - 16x^2\) is \(8x\).

**Correct Answer: A**
Which one of the following is true?

A.) A factor of $x^2 + x + 20$ is $x + 5$.

B.) A factor of $y^2 + 5y - 24$ is $y - 3$.

C.) A trinomial can never have two identical factors.
Which one of the following is true?

A.) A factor of \( x^2 + x + 20 \) is \( x + 5 \).

B.) A factor of \( y^2 + 5y - 24 \) is \( y - 3 \).

C.) A trinomial can never have two identical factors.

Correct Answer: B
Which one of the following is true?

A.) Once a GCF is factored from $18y^2 - 6y + 6$, the remaining trinomial factor is prime.

B.) One factor if $12x^2 - 13x + 3$ is $4x + 3$.

C.) The trinomial $3x^2 + 2x + 1$ has relatively small coefficients and therefore can be factored.
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C.) The trinomial $3x^2 + 2x + 1$ has relatively small coefficients and therefore can be factored.

Correct Answer: A
Which one of the following is true?

A.) All perfect square trinomials are squares of binomials.

B.) Any polynomial that is the sum of two squares is prime.

C.) The polynomial $16^2 + 20x + 25$ is a perfect trinomial.
Which one of the following is true?

A.) All perfect square trinomials are squares of binomials.

B.) Any polynomial that is the sum of two squares is prime.

C.) The polynomial $16^2 + 20x + 25$ is a perfect trinomial.

**Correct Answer: A**
Which one of the following is true?

A.) The polynomial $4x^2 + 100$ is the sum of two squares and therefore cannot be factored.

B.) If the general factoring strategy is used to factor a polynomial, at least two factorizations are necessary before the given polynomial is factored completely.

C.) Once a common monomial factor is removed from $3xy^3 + 9xy^2 + 21xy$, the remaining trinomial factor cannot be factored further.
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A.) The polynomial $4x^2 + 100$ is the sum of two squares and therefore cannot be factored.

B.) If the general factoring strategy is used to factor a polynomial, at least two factorizations are necessary before the given polynomial is factored completely.

C.) Once a common monomial factor is removed from $3xy^3 + 9xy^2 + 21xy$, the remaining trinomial factor cannot be factored further.

Correct Answer: C
Active Learning

Which one of the following is true?

A.) The solutions to the equation 
\[ 4x - 5 \quad x + 3 = 0 \] are 4, 5, and -3.

B.) Equations solved by factoring always have two different solutions.

C.) Both 0 and \( \pi \) are solutions of the equation 
\[ x \quad x - \pi = 0. \]
Which one of the following is true?

A.) The solutions to the equation $4 \ x - 5 \ x + 3 = 0$ are 4, 5, and -3.

B.) Equations solved by factoring always have two different solutions.

C.) Both 0 and $\pi$ are solutions of the equation $x \ x - \pi = 0$.

**Correct Answer: C**