

## Section 11-2: Common Monomial Factors

1. 060421a, P.I. A.A.20

If  $3x$  is one factor of  $3x^2 - 9x$ , what is the other factor?

- [A]  $3x$  [B]  $x^2 - 6x$   
[C]  $x - 3$  [D]  $x + 3$

2. 060318a, P.I. A.A.20

If one factor of  $56x^4y^3 - 42x^2y^6$  is  $14x^2y^3$ , what is the other factor?

- [A]  $4x^2 - 3y^3$  [B]  $4x^2y - 3xy^2$   
[C]  $4x^2y - 3xy^3$  [D]  $4x^2 - 3y^2$

## Section 11-5: Factoring the Difference of Two Perfect Squares

3. fall0706ia, P.I. A.A.19

The expression  $x^2 - 16$  is equivalent to

- [A]  $(x + 2)(x - 8)$  [B]  $(x + 4)(x - 4)$   
[C]  $(x - 2)(x + 8)$  [D]  $(x + 8)(x - 8)$

4. 010414a, P.I. A.A.19

What is a common factor of  $x^2 - 9$  and  $x^2 - 5x + 6$ ?

- [A]  $x^2$  [B]  $x - 3$   
[C]  $x + 3$  [D]  $x - 2$

5. 010105a, P.I. A.A.19

One of the factors of  $4x^2 - 9$  is

- [A]  $(4x - 3)$  [B]  $(2x + 3)$   
[C]  $(x + 3)$  [D]  $(x - 3)$

6. 080711a, P.I. A.A.19

One factor of the expression  $x^2y^2 - 16$  is

- [A]  $x^2 + 8$  [B]  $xy - 4$   
[C]  $x^2 - 4$  [D]  $xy - 8$

7. 010201a, P.I. A.A.19

Expressed in factored form, the binomial  $4a^2 - 9b^2$  is equivalent to

- [A]  $(2a - 9b)(2a + b)$  [B]  $(4a - 3b)(a + 3b)$   
[C]  $(2a + 3b)(2a - 3b)$   
[D]  $(2a - 3b)(2a - 3b)$

## Section 11-7: Factoring Trinomials

8. 010004a, P.I. A.A.20

Which expression is a factor of  $x^2 + 2x - 15$

- [A]  $(x + 3)$  [B]  $(x + 15)$   
[C]  $(x - 3)$  [D]  $(x - 5)$

9. 060206a, P.I. A.A.20

Which expression is a factor of  $n^2 + 3n - 54$ ?

- [A]  $n + 9$  [B]  $n - 9$   
[C]  $n^2 + 9$  [D]  $n + 6$

10. 010318a, P.I. A.A.20

What are the factors of  $x^2 - 10x - 24$ ?

- [A]  $(x - 4)(x - 6)$       [B]  $(x - 4)(x + 6)$   
[C]  $(x - 12)(x + 2)$       [D]  $(x + 12)(x - 2)$

11. 010814a, P.I. A.A.20

What are the factors of  $x^2 - 5x + 6$ ?

- [A]  $(x - 2)$  and  $(x - 3)$   
[B]  $(x - 6)$  and  $(x + 1)$   
[C]  $(x + 6)$  and  $(x - 1)$   
[D]  $(x + 2)$  and  $(x + 3)$

15. 080103a, P.I. A2.A.7

Written in simplest factored form, the binomial  $2x^2 - 50$  can be expressed as

- [A]  $(x - 5)(x + 5)$       [B]  $2(x - 5)(x + 5)$   
[C]  $2x(x - 50)$       [D]  $2(x - 5)(x - 5)$

16. 080533a, P.I. A2.A.7

Factor completely:  $5n^2 - 80$

17. 080434a, P.I. A2.A.7

Factor completely:  $3ax^2 - 27a$

### Section 11-8: Factoring a Polynomial Completely

12. 060623a, P.I. A.A.20

Factored completely, the expression  $2y^2 + 12y - 54$  is equivalent to

- [A]  $(2y + 6)(y - 9)$       [B]  $(y + 6)(2y - 9)$   
[C]  $2(y - 3)(y - 9)$       [D]  $2(y + 9)(y - 3)$

13. 060535a, P.I. A.A.20

Factor completely:  $3x^2 + 15x - 42$

14. 060109a, P.I. A2.A.7

Factor completely:  $3x^2 - 27$

- [A]  $(3x + 3)(x - 9)$       [B]  $3(x^2 - 27)$   
[C]  $3(x + 3)(x - 3)$       [D]  $3(x - 3)^2$

[1] C

[2] A

[3] B

[4] B

[5] B

[6] B

[7] C

[8] C

[9] A

[10] C

[11] A

[12] D

[2]  $3(x + 7)(x - 2)$ , and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] A conceptual error is made, such as incomplete factoring.

or [1]  $3(x + 7)(x - 2)$ , but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[13] incorrect procedure.

[14] C

[15] B

[2]  $5(n + 4)(n - 4)$ , and appropriate work is shown.

[1] Appropriate work is shown, but one factoring error is made or the expression is not simplified completely.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[16] incorrect procedure.

[2]  $3a(x - 3)(x + 3)$ , and appropriate work is shown.

[1] Appropriate work is shown, but one factoring error is made, or the expression is not factored completely.

or [1]  $3a(x - 3)(x + 3)$ , but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[17] incorrect procedure.