

A.A.20: Factor algebraic expressions completely, including trinomials with a lead coefficient of one (after factoring a GCF).

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] $4x^2 - 3y^2$

3. 010004a, P.I. A.A.20

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

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

4. 060206a, P.I. A.A.20

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

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

5. 010318a, P.I. A.A.20

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

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

6. 010814a, P.I. A.A.20

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

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

7. 060623a, P.I. A.A.20

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

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

8. 080806ia, P.I. A.A.20

Factored completely, the expression $2x^2 + 10x - 12$ is equivalent to

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

9. 060535a, P.I. A.A.20

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

[1] C

[2] A

[3] D

[4] A

[5] C

[6] C

[7] D

[8] 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

[9] incorrect procedure.