ALBERTA MATH 10C · UNIT 3 · 25 QUESTIONS

Factors and Products — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The greatest common factor of $24a^4b^2$ and $36a^2b^5$ is**

- A $6a^2b^2$
- B $12a^2b^2$
- C $12a^3b^3$
- D $36a^2b^2$

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2 **When $(x + 5)(x - 3)$ is expanded, the result is**

- A $x^2 - 2x - 15$
- B $x^2 + 2x + 15$
- C $x^2 + 8x - 15$
- D $x^2 + 2x - 15$

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3 **When $x^2 + 9x + 20$ is factored, the result is**

A $(x + 4)(x + 5)$

B $(x + 2)(x + 10)$

C $(x - 4)(x - 5)$

D $(x + 20)(x + 1)$

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4 **When $x^2 - 49$ is factored, the result is**

A $(x - 7)(x - 7)$

B $(x + 7)(x + 7)$

C $(x - 7)(x + 7)$

D $(x - 49)(x + 1)$

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5 **When $6x^2 - 15x$ is factored completely, the result is**

- A $3(2x^2 - 5x)$
- B $3x(2x - 5)$
- C $x(6x - 15)$
- D $3x(2x + 5)$

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6 **When $(2x + 3)(x - 4)$ is expanded, the result is**

- A $2x^2 - 5x - 12$
- B $2x^2 - 11x - 12$
- C $2x^2 - x - 12$
- D $2x^2 - 5x + 12$

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7 When $3x^2 + 12x + 9$ is factored completely, the result is

- **A** $(3x + 3)(x + 3)$
- **B** $3(x + 2)^2$
- **C** $(x + 1)(3x + 9)$
- **D** $3(x + 1)(x + 3)$

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8 When $(4x - 3)(x + 2)$ is expanded, the coefficient of the x term is

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9 **When $x^2 - 5x - 14$ is factored, the result is**

- A $(x - 7)(x - 2)$
- B $(x + 7)(x - 2)$
- C $(x - 7)(x + 2)$
- D $(x + 7)(x + 2)$

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10 **When $(x + 7)^2$ is expanded, the result is**

- A $x^2 + 49$
- B $x^2 + 7x + 49$
- C $x^2 + 14x + 49$
- D $x^2 - 14x + 49$

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11 **When $2x^2 + 7x + 3$ is factored, the result is**

- **A** $(2x + 1)(x + 3)$
- **B** $(2x + 3)(x + 1)$
- **C** $(x + 1)(x + 3)$
- **D** $(2x - 1)(x - 3)$

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12 **The trinomial $x^2 + bx + 36$ can be factored, and one of its factors is $(x + 4)$. The value of b is**

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13 **When $9x^2 - 25$ is factored, the result is**

- A $(3x - 5)^2$
- B $(3x - 5)(3x + 5)$
- C $(9x - 5)(x + 5)$
- D $(3x + 5)^2$

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14 **When $(x + 2)(x^2 - 3x + 4)$ is expanded, the result is**

- A $x^3 + x^2 - 2x + 8$
- B $x^3 - 3x^2 + 4x + 8$
- C $x^3 - x^2 + 2x + 8$
- D $x^3 - x^2 - 2x + 8$

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15 **When $12x^3 - 27x$ is factored completely, the number of binomial factors in the factorization is**

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16 **When $5x^2 - 22x - 15$ is factored, the result is**

A $(5x - 3)(x + 5)$

B $(5x + 5)(x - 3)$

C $(5x + 3)(x - 5)$

D $(x + 3)(5x - 5)$

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17 **A rectangle has a length of (x + 6) and a width of (x - 2). An expression for the area of the rectangle is**

- **A** $x^2 + 4x - 12$
- **B** $x^2 - 4x - 12$
- **C** $x^2 + 8x - 12$
- **D** $x^2 + 4x + 12$

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18 **The trinomial $x^2 - 11x + 28$ factors as $(x - a)(x - b)$, where $a > b$. The value of $a - b$ is**

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19 **Which of the following expressions is a perfect square trinomial?**

- A $x^2 + 10x + 16$
- B $x^2 - 12x + 36$
- C $x^2 + 4x + 16$
- D $x^2 - 8x - 16$

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20 **When $x^2 + 5xy - 6y^2$ is factored, the result is**

- A $(x + 6y)(x + y)$
- B $(x - 6y)(x - y)$
- C $(x + 3y)(x + 2y)$
- D $(x + 6y)(x - y)$

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21 When (3x + k)(x - 2) is expanded, the constant term is -12. The value of k is

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22 When $2x^3 + 10x^2 + 12x$ is factored completely, the result is

A $2(x^3 + 5x^2 + 6x)$

B $2x(x + 1)(x + 6)$

C $2x(x + 2)(x + 3)$

D $2x(x - 2)(x - 3)$

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23 The area of a rectangle is $x^2 + 7x - 18$ and its width is (x - 2). When the length is written in the form (x + c), the value of c is

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24 **The greatest common factor of $18x^2y^3$, $24x^3y$, and $30xy^2$ is kx^ay^b. The value of k + a + b is**

ANSWER

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25 **When $6x^2 - x - 12$ is factored, the result is**

A (3x + 4)(2x - 3)

B (3x - 4)(2x + 3)

C (6x + 4)(x - 3)

D (2x - 4)(3x + 3)

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ANSWER KEY

1. B
2. D
3. A
4. C
5. B
6. A
7. D
8. 5
9. C
10. C
11. A
12. 13
13. B
14. D
15. 2
16. C
17. A
18. 3
19. B
20. D
21. 6
22. C
23. 9
24. 8
25. A

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