YUKON FOUNDATIONS OF MATHEMATICS AND PRE-CALCULUS 10 (MFMP-10) · UNIT B · 25 QUESTIONS

Polynomials and Factoring — 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 **When expanded and simplified, $3x(x + 4)$ is equal to**

- A $3x^2 + 4$
- B $3x^2 + 12x$
- C $3x + 12$
- D $3x^2 + 7x$

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2 **When expanded and simplified, $(x + 5)(x + 3)$ is equal to**

- A $x^2 + 8x + 8$
- B $x^2 + 3x + 15$
- C $x^2 + 8x + 15$
- D $x^2 + 15x + 8$

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3 **When expanded and simplified, (2x - 3)(x + 4) is equal to**

A $2x^2 + 5x - 12$

B $2x^2 + 11x - 12$

C $2x^2 - 5x - 12$

D $2x^2 + 5x + 12$

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4 **When factored completely, $6x^2 + 9x$ is equal to**

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

B $x(6x + 9)$

C $3x(2x + 9)$

D $3x(2x + 3)$

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5 **When factored completely, $x^2 + 7x + 12$ is equal to**

- A $(x - 3)(x - 4)$
- B $(x + 3)(x + 4)$
- C $(x + 2)(x + 6)$
- D $(x + 12)(x + 1)$

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6 **When factored completely, $x^2 - 9x + 20$ is equal to**

- A $(x - 4)(x - 5)$
- B $(x + 4)(x + 5)$
- C $(x - 2)(x - 10)$
- D $(x + 2)(x + 10)$

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7 **When factored completely, $x^2 - 49$ is equal to**

- A $(x - 49)(x + 1)$
- B $(x + 7)^2$
- C $(x - 7)^2$
- D $(x + 7)(x - 7)$

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8 **When factored completely, $4x^2 - 25$ is equal to**

- A $(2x + 5)^2$
- B $(2x - 5)^2$
- C $(2x + 5)(2x - 5)$
- D $(4x - 5)(x + 5)$

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9 **When expanded and simplified, $(x - 6)^2$ is equal to**

- A $x^2 - 36$
- B $x^2 - 12x - 36$
- C $x^2 - 12x + 36$
- D $x^2 + 12x + 36$

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10 **When expanded and simplified, $(3x + 2)(3x - 2)$ is equal to**

- A $9x^2 + 4$
- B $9x^2 - 4$
- C $9x^2 + 12x - 4$
- D $9x^2 - 12x + 4$

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11 **When factored completely, $2x^2 + 7x + 3$ is equal to**

- 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 **When factored completely, $3x^2 - 10x + 8$ is equal to**

- A $(3x - 8)(x - 1)$
- B $(3x - 2)(x - 4)$
- C $(3x + 4)(x - 2)$
- D $(3x - 4)(x - 2)$

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13 **When factored by grouping, $x^2 + 3x + 2x + 6$ is equal to**

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

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14 **When factored completely, $5x^3 - 20x$ is equal to**

- A $5x(x - 2)^2$
- B $x(5x^2 - 20)$
- C $5x(x^2 - 4)$
- D $5x(x - 2)(x + 2)$

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15 **The area of a rectangle is $x^2 + 9x + 20$. Its side lengths could be**

- **A** (x - 4) and (x - 5)
- **B** (x + 20) and (x + 1)
- **C** (x + 4) and (x + 5)
- **D** (x + 2) and (x + 10)

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16 **When expanded and simplified, 2(x - 3) + 5(x + 1) is equal to**

- **A** 7x + 1
- **B** 7x - 1
- **C** 7x + 11
- **D** 7x - 11

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17 **When simplified, $(4x^2 - 9) - (x^2 + 2x - 5)$ is equal to**

- A $3x^2 - 2x - 14$
- B $3x^2 + 2x - 4$
- C $5x^2 - 2x - 4$
- D $3x^2 - 2x - 4$

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18 **When factored completely, $x^2 + 11x + 30$ is equal to**

- A $(x + 5)(x + 6)$
- B $(x + 3)(x + 10)$
- C $(x + 15)(x + 2)$
- D $(x - 5)(x - 6)$

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19 **The coefficient of x in the expansion of (x + 7)(x - 2) is ____.**

ANSWER _____

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20 **When factored completely, $8x^2 - 18$ is equal to**

A $2(2x - 3)^2$

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

C $2(4x - 9)(x + 2)$

D $(4x - 3)(2x + 6)$

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21 **When expanded and simplified, $(x + 4)(x + 4) - x^2$ is equal to**

- A $16x + 8$
- B $2x^2 + 8x + 16$
- C $8x + 16$
- D $8x - 16$

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22 **For $y = (x + 3)^2$, with vertex at (-3, 0), the expanded form of $(x + 3)^2$ is**

- A $x^2 + 6x + 9$
- B $x^2 + 3x + 9$
- C $x^2 + 6x + 3$
- D $x^2 + 9$

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23 **When factored completely, $x^3 - x$ is equal to**

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

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24 **The parabola $y = x^2 - 5x + 6$ crosses the x-axis at 2 and 3. The factored form of $x^2 - 5x + 6$ is**

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

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25 **When factored completely, $6x^2 + 11x - 10$ is equal to**

A (6x - 5)(x + 2)

B (3x + 5)(2x - 2)

C (3x - 2)(2x + 5)

D (6x + 5)(x - 2)

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ANSWER KEY

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

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