

Chapter 8A: Factoring Polynomials Unit Review

PART I Multiple Choice: Answer all questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed.

- _____ 1. Which expression is equivalent to $9x^2 - 16$?
- $(3x + 4)(3x - 4)$
 - $(3x - 4)(3x - 4)$
 - $(3x + 8)(3x - 8)$
 - $(3x - 8)(3x - 8)$
- _____ 2. Factored completely, the expression $2y^2 + 12y - 54$ is equivalent to
- $2(y + 9)(y - 3)$
 - $2(y - 3)(y - 9)$
 - $(y + 6)(2y - 9)$
 - $(2y + 6)(y - 9)$
- _____ 3. Factored, the expression $16x^2 - 25y^2$ is equivalent to
- $(4x - 5y)(4x + 5y)$
 - $(4x - 5y)(4x - 5y)$
 - $(8x - 5y)(8x + 5y)$
 - $(8x - 5y)(8x - 5y)$
- _____ 4. Which expression is a factor of $x^2 + 2x - 15$?
- $(x + 3)$
 - $(x + 15)$
 - $(x - 5)$
 - $(x - 3)$
- _____ 5. What are the factors of $x^2 - 2x - 24$?
- $(x - 4)(x + 6)$
 - $(x - 12)(x + 2)$
 - $(x + 12)(x - 2)$
 - $(x + 4)(x - 6)$
- _____ 6. If one factor of $21xy^3 - 15x^2y^2$ is $3xy^2$, what is the other factor?
- $7x^2 - 5y$
 - $7y^2 - 5x^2$
 - $7y - 5x$
 - $7xy - 5x^2$

- _____ 7. What is a common factor of $x^2 - 9$ and $x^2 + x - 6$?
- $x - 3$
 - x^2
 - $x + 3$
 - $x - 2$
- _____ 8. If $4x$ is one factor of $4x^2 - 12x$, what is the other factor?
- $x^2 - 8x$
 - $x - 3$
 - $4x$
 - $x + 3$
- _____ 9. Factor $d^2 - 14d + 49$
- $(d + 7)^2$
 - $(d - 7)^2$
 - $(d - 7)(d + 7)$
 - $(d - 49)(d - 1)$
- _____ 10. Which expression represents $\frac{12x^3 - 6x^2 + 2x}{2x}$ in simplest form?
- $6x^2 - 3x$
 - $10x^2 - 4x$
 - $6x^2 - 3x + 1$
 - $10x^2 - 4x + 1$
- _____ 11. When $3g^2 - 4g + 2$ is subtracted from $7g^2 + 5g - 1$, the difference is
- $-4g^2 - 9g + 3$
 - $4g^2 + g + 1$
 - $4g^2 + 9g - 3$
 - $10g^2 + g + 1$
- _____ 12. What is the value of p in the equation $8p + 2 = 4p - 10$?
- 1
 - 1
 - 3
 - 3

Name: _____

ID: A

PART II: Answer all questions in this part. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit.

13. Factor completely: $8n^2 - 50$

Answer: _____

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

Answer: _____

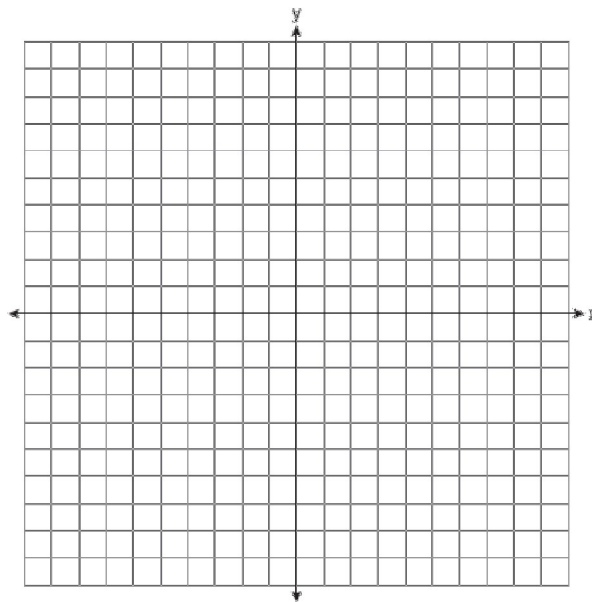
Name: _____

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15. Factor completely: $5x^2 - 40x + 60$

Answer: _____

16. **BONUS:** Graph the system of linear inequalities $\begin{cases} y < -3x + 2 \\ y \geq 4x - 1 \end{cases}$. Give one ordered pair that is a solution.



One Solution of System: _____