NAME: _____ **BLOCK:** _____ **DATE:** _____

MATH 10 - CHAPTER 4 - PRETEST

signature

Multiple Choice - PART A - non-calculator - 10 minutes
***CIRCLE** the choice that **best** completes the statement or answers the question.*

1. Factor the binomial $44a + 99a^2$.
   a. $a(44 + 99a)$
   b. $11(4a + 9a^2)$
   c. $11a(4 + 9a)$
   d. $22a(2 + 9a)$

2. Factor the trinomial $-24c^3d - 40c^2d^2 - 32cd^3$.
   a. $-8cd(3c^2 - 5cd - 4d^2)$
   b. $8cd(3c^2 + 5cd + 4d^2)$
   c. $8cd(-3c^2 + 5cd + 4d^2)$
   d. $-8cd(3c^2 + 5cd + 4d^2)$

3. Simplify the expression $y^2 + 8y - 6 - 9y^2 - 24y - 26$, then factor.
   a. $-8(y^2 - 2y - 4)$
   b. $-8(y^2 + 2y + 4)$
   c. $-4(2y^2 + 4y + 8)$
   d. $-4(2y^2 + 4y + 1)$

4. Factor: $t^2 + 9t - 36$
   a. $(t - 2)(t + 18)$
   b. $(t + 2)(t - 18)$
   c. $(t + 12)(t - 3)$
   d. $(t - 12)(t + 3)$

5. Factor: $-3b^2 + 15b + 18$
   a. $-3(b - 2)(b + 3)$
   b. $-3(b + 2)(b - 3)$
   c. $-3(b - 1)(b + 6)$
   d. $-3(b + 1)(b - 6)$

6. Complete: $(a + 6)(a - \square) = a^2 + \square a - 12$
   a. $(a + 6)(a - 4) = a^2 + 4a - 12$
   b. $(a + 6)(a - 2) = a^2 + 4a - 12$
   c. $(a + 6)(a - 2) = a^2 + 2a - 12$
   d. $(a + 6)(a - 4) = a^2 + 2a - 12$

PART B - calculator may be used after 10 minutes

7. Factor: $-5m^2 + 20m + 60$
   a. $-5(m+2)(m-6)$
   b. $-5(m-2)(m+6)$
   c. $-5(m-4)(m+3)$
   d. $-5(m+4)(m-3)$

8. Factor: $16p^2 - 81q^2$
   a. $(4p-9q)^2$
   b. $(4p+9q)^2$
   c. $(16p-9q)(p-9q)$
   d. $(4p+9q)(4p-9q)$

9. Factor: $3z^4 - 768z^2$
   a. $3z^2(z+16)(z-16)$
   b. $3z^2(z+16)^2$
   c. $z^2(z+48)(z-16)$
   d. $3z^2(z-16)^2$

10. Identify the greatest common factor of the terms in the trinomial $6s^3t^4 + 12s^4t^2 - 15s^2t^3$.
    a. $6s^2t^2$
    b. $3s^2t^2$
    c. $3s^2t^3$
    d. $3s^3t^2$

Short Answer - SHOW YOUR WORK

11. Simplify $25a^3b^2 - 10a^2b^3 + 19b^4 - 10a^3b^2 + 30a^2b^3 - 29b^4$, then factor.
    WORK

    ANSWER

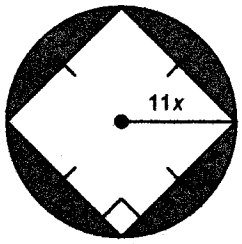
12. Factor: $s^2 - 33s + 32$
    WORK

    ANSWER

Problem - SHOW YOUR WORK

13. A square is drawn inside a circle with radius $11x$.
    a) Write an expression for the area of the shaded region. (hint-remember that really special theorem!)
    $\{A(\text{circle}) = \pi r^2 \qquad A(\text{square}) = \text{side}^2\}$

    b) Factor the expression.



14. Factor.
    $n^2 + n - 42$