Drafting and Polynomials Exam

Name_____

A graphing calculator is allowed on this portion of the exam

1. Which equation will have x-intercepts at the given values?

   $6, \ -9$

   [A] $y = x^2 - 54x + 3$ [B] $y = x^2 + 3x - 54$

   [C] $y = x^2 - 3x + 54$ [D] $y = x^2 + 54x - 3$

   [1] _____

2. Expand the expression. $\left(v + 5 \right)^2$

   [A] $v^2 + 10v + 25$ [B] $v^2 - 10v + 25$ [C] $v^2 + 25$ [D] $v^2 - 25$

   [2] _____

3. Rewrite $x^2 - 7x + 12$ in factored form.

[A] $(x+3)(x+4)$ [B] $(x-3)(x-4)$ [C] $(x-3)(x+4)$ [D] $(x+3)(x-4)$

[3] _____

4. Solve the equation by factoring. $x^2 - 2x - 24 = 0$

[A] $x = 6, -4$ [B] $x = 1, -24$ [C] $x = 12, -2$ [D] $x = 8, -3$

[4] _____

Use the quadratic formula to solve the equation.

5. $x^2 = -7x + 3$

[A] $x = \dfrac{-7 + \sqrt{61}}{2}, \dfrac{-7 - \sqrt{61}}{2}$

[B] $x = 7 + \sqrt{61}, 7 - \sqrt{61}$

[C] $x = \dfrac{7 + \sqrt{61}}{2}, \dfrac{7 - \sqrt{61}}{2}$

[D] $x = -7 + \sqrt{61}, -7 - \sqrt{61}$

[5] _____

6. $x^2 + 3x + 1 = 0$

[6] _____

7. Add: $(4b^4 - 6b^2 - 4) + (8b^4 + b - 4)$

[7] _____

8. Multiply: $(x-1)(x^2+4x-6)$

[8] _____

Factor completely:

9. $40x^6 - 56x^8$

[9] _____

10. $4x^3 - 12x^2 + 20x$

[A] $4(x^3 - 3x^2 + 5x)$ [B] $4x(x-3)(x+5)$

[C] $x(4x^2 - 12x + 20)$ [D] $4x(x^2 - 3x + 5)$

[10] _____

Factor:

11. $36y^2 - 49$

    [A] $(6y+7)(6y+7)$ [B] $(6y+7)(6y-7)$ [11] _____

    [C] $(36y+1)(y-49)$ [D] $(6y-7)(6y-7)$

12. $12x^2 + 5 - 23x$

[12] _____

Solve:

13. $x^2 + x - 20 = 0$

[13] _____

Solve:

14. $x^2 + 3x = 0$ [A] –3, 2   [B] 0, 3   [C] 0, –3   [D] –3, 3

[14] _____