**Algebra 1: Polynomials Test Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Solve for x.**

1. $4\left(2x-8\right)=32$ 2. $-3\left(-x+4\right)=21$

**Simplify:**

1. $\left(2x^{2}+5x-7\right)+ (3x^{2}+6x-8)$ 4. $\left(5x^{2}-3x+2\right)+ (x^{2}+3x-5)$
2. $\left(4x^{3}-2x+2\right)+ (3x^{2}+5x-8)$ 6. $\left(2x^{2}-4x+15\right)-(3x^{2}+2x-5)$
3. $\left(–x^{2}-10x+5\right)-\left(3x^{2}-4x+3\right)$ 8. $\left(2x+5\right)-\left(-4x+3\right)+(5x-8)$

**Simplify:**

1. $4x^{3}\left(2x^{2}+3x-5\right)$ 9. $-2x^{3}y(4x^{4}y^{2}-xy^{2}+3y^{4})$
2. $\left(x+7\right)(x-4)$ 11. $\left(2x-4\right)(5x+8)$
3. $\left(2x-5\right)(2x+5)$ 13. $\left(x-6\right)(2x^{2}+5x-10)$
4. $\left(4x+5\right)(3x^{2}+3x-8)$

 **15. Area:**

 3x + 2

 4x – 7 **16. Perimeter:**

**17. Perimeter:**  4x - 2 4x - 2

 3x

 **18. Area:**

 **4x**

 2x - 10

For the quadratic equation: x2 - 2x – 3 = 0, find the:

19. Vertex: \_\_\_\_\_\_

20. Simplify: (2x + 3)2

 **3x** 2x + 10

 **4x – 2**

 8x + 4

21. Find the area of the large rectangle: 22. Find the area of the small rectangle:

23. Find the area of the shaded region:

**Find the GCF of the following polynomials.**

1. $16x+32$

GCF = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. $72x^{2}-63x$

GCF = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. $-33x^{7}+55x^{5}-22x^{3}$

GCF = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. $9x^{6}y^{3}+33x^{4}y^{5}$

GCF = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Find the GCF then factor.**

1. $54a^{6}-36a^{4}+90a^{3}$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. $-11a^{8}+33a^{6}-55a^{4}$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. $85c^{3}d^{4}-51c^{4}d^{2}$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. $-20xy^{5}+60x^{3}y^{2}$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. $60a^{6}b^{3}+15a^{4}b^{4}-105a^{5}$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. $36x^{3}+18x^{2}-24x$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Extra Credit (1 point each): Factor the given polynomials.**

1. $x^{2}+3x-10$ ( )( )
2. $x^{2}-8x-20$ ( )( )
3. $x^{2}-x-72$ ( )( )
4. $x^{2}+5x-24$ ( )( )
5. $2x^{2}+14x-18$ ( )( )

39. A new computer costs $4,000. Its value depreciates $1250 each year. Write a function to represent the value of the computer after x years.

40. What is the computer worth after 2 years?

Solve for x:

41. $\frac{2}{3}x-5=10$

42. $-4x=10$