

Name _____

Identify the polynomial as a monomial, binomial, or trinomial. Give the degree of the polynomial.

1) $10x^8 + 7x + 4$

2) $-17x^4 - 5x + 9$

3) $6x^3 - 5x - 8$

4) $10x^6 - 8x - 1$

Add the polynomials.

5) $(4y - 12) + (9y + 5)$

6) $(5x^2 - 8x - 5) + (6x^2 - 8x + 1)$

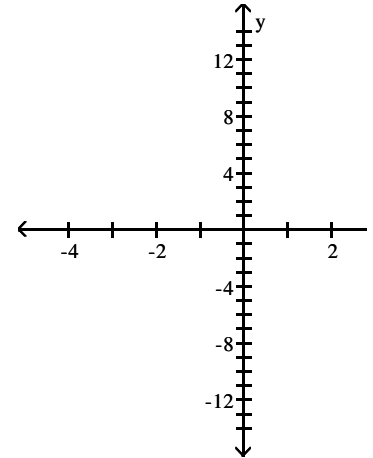
7) $(4y^4 + 9y^3) + (8y^4 + 6y^3)$

8) $(9y^6 + 2y^3 + 7y) + (5y^6 + 9y^3 + 4y)$

Graph the equation. Find seven solutions in your table of values for the equation by using integers for x , starting with -3 and ending with 3 .

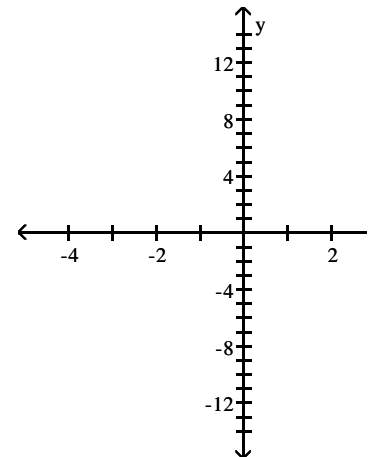
9) $y = x^2 - 2$

x	$x^2 - 2$
-3	
-2	
-1	
0	
1	
2	
3	



10) $y = 3 - x^2$

x	$3 - x^2$
-3	
-2	
-1	
0	
1	
2	
3	



Subtract the polynomials.

11) $(13x + 6) - (6x + 15)$

$$12) (-12x + 10) - (-16x + 4)$$

$$21) (x^6)^8$$

$$13) (8x + 19) - (-19x - 14)$$

$$22) (x^2)^3$$

$$14) (-18x - 3) - (-10x + 11)$$

Find the product.

$$23) (9x - 1)(x^2 - 6x + 1)$$

Multiply the expression using the product rule.

$$15) y \cdot y^6$$

$$24) (8x - 1)(x^2 - 6x + 1)$$

$$16) y \cdot y^{12}$$

$$25) (9x - 1)(x^2 - 3x + 1)$$

$$17) x \cdot x^2$$

$$26) (7x - 1)(x^2 - 3x + 1)$$

$$18) x \cdot x^{11}$$

Use the FOIL method to find the product. Express the product in descending powers of the variable.

$$27) (x + 9)(x - 11)$$

Simplify the expression using the power rule.

$$19) (y^5)^8$$

$$28) (x + 4)(x + 5)$$

$$20) (y^9)^5$$

$$29) (x - 4)(x - 2)$$

Multiply using the rule for finding the product of the sum and difference of two terms.

$$30) \left(3x + \frac{1}{3}\right) \left(3x - \frac{1}{3}\right)$$

$$31) \left(7x + \frac{1}{7}\right) \left(7x - \frac{1}{7}\right)$$

$$32) \left(9x + \frac{1}{9}\right) \left(9x - \frac{1}{9}\right)$$

$$33) \left(11x + \frac{1}{11}\right) \left(11x - \frac{1}{11}\right)$$

$$34) \left(5x + \frac{1}{5}\right) \left(5x - \frac{1}{5}\right)$$

$$35) (x^2 + 3)(x^2 - 3)$$

$$36) (x^2 + 9)(x^2 - 9)$$

$$37) (x^2 + 5)(x^2 - 5)$$

Multiply by using the rule for the square of a binomial.

$$38) (x + 3)^2$$

$$39) (x + 7)^2$$

$$40) (3x - 11)^2$$

$$41) (7x - 8)^2$$

$$42) (7 - 8x)^2$$

$$43) (5 - 2x)^2$$

$$44) \left(7x + \frac{1}{7}\right)^2$$

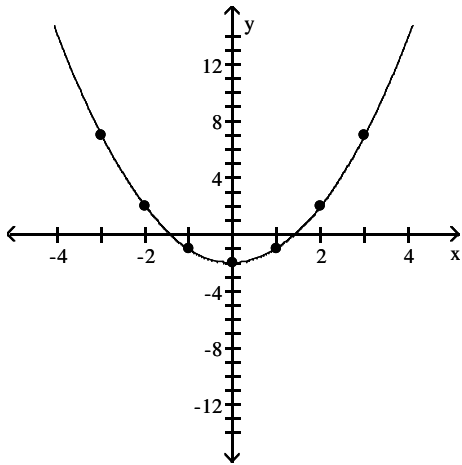
$$45) \left(11x + \frac{1}{11}\right)^2$$

$$46) (x^3 + 3)^2$$

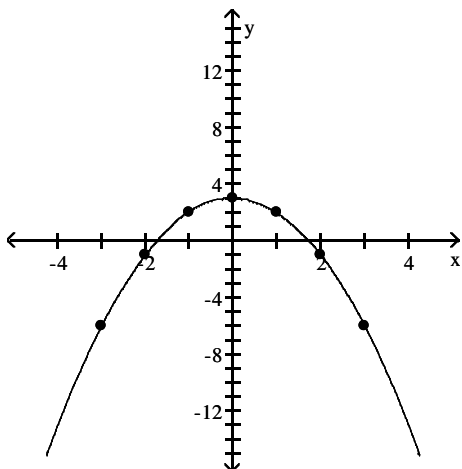
Answer Key

Testname: Q01PREP

- 1) Trinomial, degree 8
- 2) Trinomial, degree 4
- 3) Trinomial, degree 3
- 4) Trinomial, degree 6
- 5) $13y - 7$
- 6) $11x^2 - 16x - 4$
- 7) $12y^4 + 15y^3$
- 8) $14y^6 + 11y^3 + 11y$
- 9)



10)



- 11) $7x - 9$
- 12) $4x + 6$
- 13) $27x + 33$
- 14) $-8x - 14$
- 15) y^7
- 16) y^{13}
- 17) x^3
- 18) x^{12}
- 19) y^{40}
- 20) y^{45}

Answer Key

Testname: Q01PREP

21) x^{48}

22) x^6

23) $9x^3 - 55x^2 + 15x - 1$

24) $8x^3 - 49x^2 + 14x - 1$

25) $9x^3 - 28x^2 + 12x - 1$

26) $7x^3 - 22x^2 + 10x - 1$

27) $x^2 - 2x - 99$

28) $x^2 + 9x + 20$

29) $x^2 - 6x + 8$

30) $9x^2 - \frac{1}{9}$

31) $49x^2 - \frac{1}{49}$

32) $81x^2 - \frac{1}{81}$

33) $121x^2 - \frac{1}{121}$

34) $25x^2 - \frac{1}{25}$

35) $x^4 - 9$

36) $x^4 - 81$

37) $x^4 - 25$

38) $x^2 + 6x + 9$

39) $x^2 + 14x + 49$

40) $9x^2 - 66x + 121$

41) $49x^2 - 112x + 64$

42) $64x^2 - 112x + 49$

43) $4x^2 - 20x + 25$

44) $49x^2 + 2x + \frac{1}{49}$

45) $121x^2 + 2x + \frac{1}{121}$

46) $x^6 + 6x^3 + 9$