

Write the polynomial in standard form. Then name the polynomial based on its degree and number of terms.

$$2 - 11x^2 - 8x + 6x^2$$

- A  $-5x^2 - 8x + 2$ ; quadratic trinomial    C  $-6x^2 - 8x - 2$ ; cubic polynomial  
B  $5x^2 - 8x - 2$ ; quadratic trinomial    D  $6x^2 - 8x + 2$ ; cubic trinomial

Write the polynomial in standard form.

$$4g - g^3 + 3g^2 - 2$$

- A  $-2 + 4g + 3g^2 - g^3$     C  $3g^3 - g^2 + 4g - 2$   
B  $g^3 - 3g^2 + 4g - 2$     D  $-g^3 + 3g^2 + 4g - 2$

Assume  $f(x) = -7x - 5x^4 + 5$  and  $g(x) = 7x^4 + 5 + 9x$ , find  $f(x) + g(x)$ .

- A  $2x^4 + 2x + 8$     C  $-14x^4 - 10x + 10$   
B  $-14x^4 + 10x + 10$     D  $2x^4 + 2x + 10$

Assume  $f(w) = 4w^2 - 4w - 8$  and  $g(w) = 2w^2 + 3w - 6$ , find  $f(w) - g(w)$ .

- A  $2w^2 - 7w - 2$     C  $2w^2 - 1w - 14$   
B  $6w^2 - 1w - 14$     D  $6w^2 + 7w + 2$

Assume  $f(u) = 2u - 4$  and  $g(u) = u^2 + 2u - 7$ , find  $f(u) \cdot g(u)$ .

- A  $2u^3 - 8u^2 - 22u + 28$     C  $2u^3 - 6u - 28$   
B  $2u^3 + 8u^2 - 22u + 28$     D  $2u^3 - 22u + 28$

Use the GCF of the terms to factor the polynomial.

$$23x^4 + 46x^3$$

- A  $x^3(23x + 46)$     B  $23x^3(x + 2)$     C  $23x^4(x + 2)$     D  $23x(x^3 + 2x^2)$

Divide  $-x^3 + 4x^2 - x - 3$  by  $x + 2$ .

a.  $-x^2 + 6x - 13$

b.  $-x^2 + 2x + 11, R -29$

c.  $-x^2 + 2x + 11$

d.  $-x^2 + 6x - 13, R 23$

Find the product  $2c^4d^4(-4c^6d^5 - c^3d)$ .

a.  $-2c^7d^9 + c^4d^5$

b.  $-8c^6d^{20} - 2c^3d^4$

c.  $2c^8d^{10} + 2c^5d^6$

d.  $-8c^7d^9 - 2c^4d^5$

Find the product  $(5x - 3)(x^3 - 5x + 2)$ .

a.  $5x^4 - 3x^3 - 25x^2 + 25x - 6$

b.  $5x^3 + 22x^2 - 5x - 6$

c.  $5x^3 - 28x^2 + 25x - 6$

d.  $5x^4 - 3x^3 + 25x^2 - 5x - 6$

Find the degree of the polynomial function.

3)  $-13x^4 - 6x^3 - 4x + 5y^5 + 4$

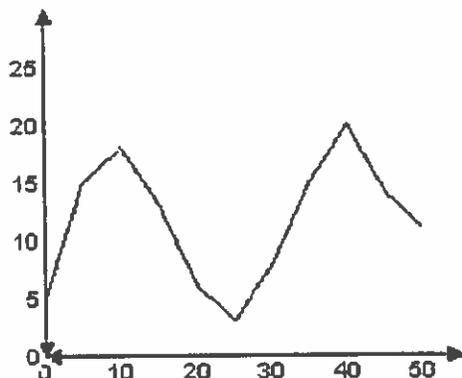
A) 13

B) 5

C) 4

D) -13

11) Suppose that a polynomial function is used to model the data shown in the graph below.



For what intervals is the function increasing?

A) 10 through 25 and 40 through 50

C) 0 through 10 and 25 through 40

B) 0 through 10 and 20 through 50

D) 0 through 40

$$\frac{3x^2 - 8x + 5}{x - 1}$$

A)  $x - 5$

B)  $-5x - 1$

C)  $3x - 5$

D)  $-3x + 5$

Simplify:  $(-7x - 5x^4 + 5) - (-9x^4 - 5 - 9x)$ .

A  $4x^4 + 2x + 2$

B  $-16x^4 + 8x + 10$

C  $-16x^4 - 8x + 10$

D  $4x^4 + 2x + 10$

Simplify:  $(2w^2 - 7w - 5) - (4w^2 + 4w - 3)$ .

A  $-2w^2 - 11w - 2$

B  $6w^2 + 11w + 2$

C  $-2w^2 - 3w - 8$

D  $6w^2 - 12w - 8$

Simplify:  $-c(c^2 + 6c + 10)$ .

A  $-c^2 + 7c + 10$

B  $-c^2 + 5c + 10$

C  $c^3 + 6c + 10$

D  $-c^3 - 6c - 10c$

Simplify the following polynomial:  $8c^2 - c + 1 + 7c^2 - 9c - 7$ .

A  $c^2 + 8c + 8$

B  $15c^2 - 10c - 6$

C  $-c^2 + 6c - 7$

D  $-c^2 - 8c - 8$

Put the following polynomial in standard form and then determine the specific family of functions it belongs to:  $4x^2 + 4x - 8x^3 - 10$ .

A  $-8x^3 + 4x^2 + 4x - 10$ , cubic function

B  $8x^3 + 4x^2 - 4x - 10$ , cubic function

C  $4x^2 + 4x - 8x^3 - 10$ , quadratic function

D  $-8x^3 + 4x^2 + 4x - 10$ , quadratic function

