

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

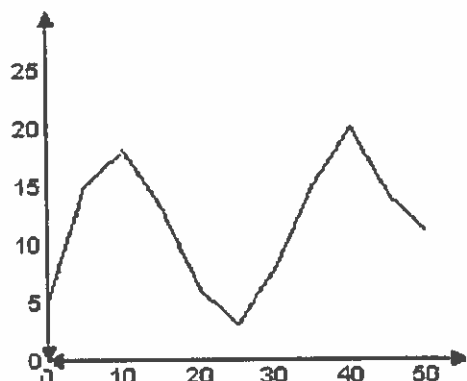
A) 13

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

Simplify the sum: $(-2u^3 + 5u^2 + 7) + (8u^3 - 6u + 3)$.

- ☒ A $6u^3 + 5u^2 - 6u + 10$ C $-2u^3 - 6u^2 + 5u - 10$
B $10 - 6u + 5u^2 + 14u^3$ D $-2u^3 + 5u^2 - 6u + 10$

Simplify the polynomial: $7w^2 - 7w - 8 - 2w^2 - 5w + 3$.

- A $5w^2 - 2w - 11$ C $9w^2 + 12w + 5$
B $9w^2 - 2w - 11$ D $5w^2 - 12w - 5$

Evaluate $3x^3 - 2x^2 - 6x + 10$, using $x = -2$.

- A 18 C 6
B -6 D -10

Solve the following polynomial equation: $x^3 + 3x^2 - 4x = 0$.

- ☒ A $x = 0, x = -4, x = 1$ C $x = 0, x = -1, x = 4$
B $x = 1, x = -4$ D $x = -1, x = 4$