



Classify polynomials by degree and number of terms

- 1 Simplify by combining like terms.

$$-7x + 9x^2 - 5 + 4x^2$$

A $9x^2 - 7x - 5$

B $9x^2 + 4x^2 - 7x - 5$

C $13x^2 - 7x - 5$

D $5x^2 - 7x - 5$

- 2 What is the highest power and leading coefficient of this function?

$$f(x) = -4x - 4$$

- 3 Which function has this power and coefficient?

A $f(x) = -2x + 4$

B $f(x) = -2x^2 + 4x + 4$

- 4 Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What is the leading coefficient in this polynomial?

$$f(x) = 3x^3 - 21x^2 + 45x - 27$$

A 3

B -27

C -21

D 45

- 5 Valid rational roots are in the form p/q where q must be a factor of the leading coefficient. What is the leading coefficient in this polynomial?

$$f(x) = -64 + 4x^4 + 80x - 20x^3$$

A -64

B -20

C 80

D 4

- 6 Simplify by combining like terms.

$$6 + 9x^3 - 6x^3 + 7x - 5x^4$$

A $-5x^4 + 9x^3 - 6x^3 + 7x + 6$

B $-5x^4 + 15x^3 + 7x + 6$

C $-5x^4 + 9x^3 + 7x + 6$

D $-5x^4 + 3x^3 + 7x + 6$

- 7 Simplify by combining like terms.

$$-3x^3 - 6x^3 - 6x + 9x^4 - 3x^2$$

A $9x^4 - 3x^3 - 6x^3 - 3x^2 - 6x$

B $9x^4 + 3x^3 - 3x^2 - 6x$

C $9x^4 - 9x^3 - 3x^2 - 6x$

D $9x^4 - 3x^3 - 3x^2 - 6x$

- 8 Simplify by combining like terms.

$$6x^3 - 5x^2 - x - 9x^4 - 2x^4$$

A $-11x^4 + 6x^3 - 5x^2 - x$

B $-9x^4 - 2x^4 + 6x^3 - 5x^2 - x$

C $-7x^4 + 6x^3 - 5x^2 - x$

D $-9x^4 + 6x^3 - 5x^2 - x$