8-2 Zeros of a Polynomial

Objectives:

8-2a: I can find the zeroes of a polynomial using factoring.

Vocabulary:

Zeros of a Polynomial -

Division, Graph, Factor

If this is a zero what is the factor...

If this is a factor what is the zero...

$$f(x) = x^3 - 2x^2 - 8x$$

What is the degree of the polynomial?

How many factors does it have?

How many zeros does it have?

How many x-intercepts does it have?

$$f(x) = x^2(x - 1)(x + 3)^3(x - 7)$$

What is the degree of the polynomial?

How many factors does it have?

How many zeros does it have?

How many x-intercepts does it have?

The Fundamental Theorem of Algebra

Find the zeros of the polynomial using factoring

$$2x^2 + x + 10x + 5$$

How many zeros are there? What is the degree?

Find the zeros by factoring

$$f(x) = x^3 - 2x^2 - 8x$$

Find the zeros by factoring

$$f(x) = 2x^3 + 5x^2 - 3x$$

Find if -4 is a zero of the function.

$$3x^2 + 7x - 20$$

Given that "3" is a zero, find the remaining zeros.

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

Given that "1" is a zero, find the remaining zeros.

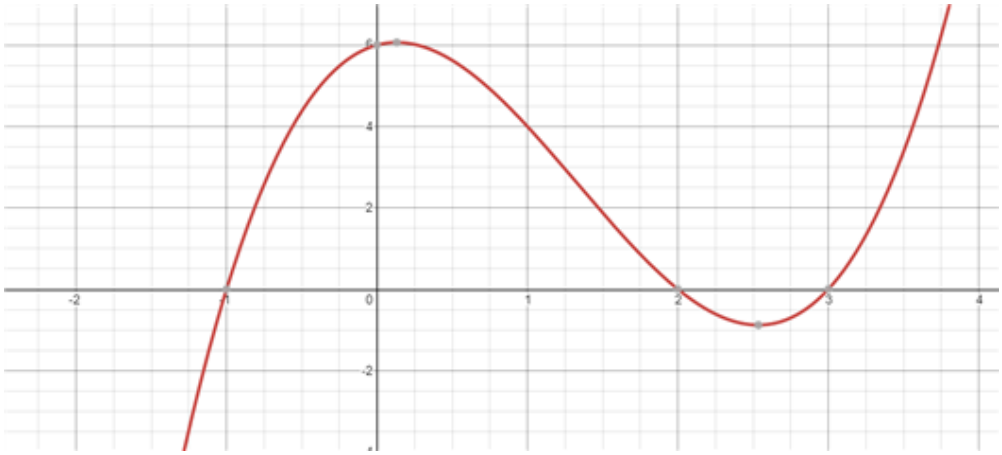
$$f(x) = x^3 + 5x^2 - x - 5$$

Given that "7" is a zero, find the remaining zeros.

$$f(x) = x^3 - 7x^2 - x + 7$$

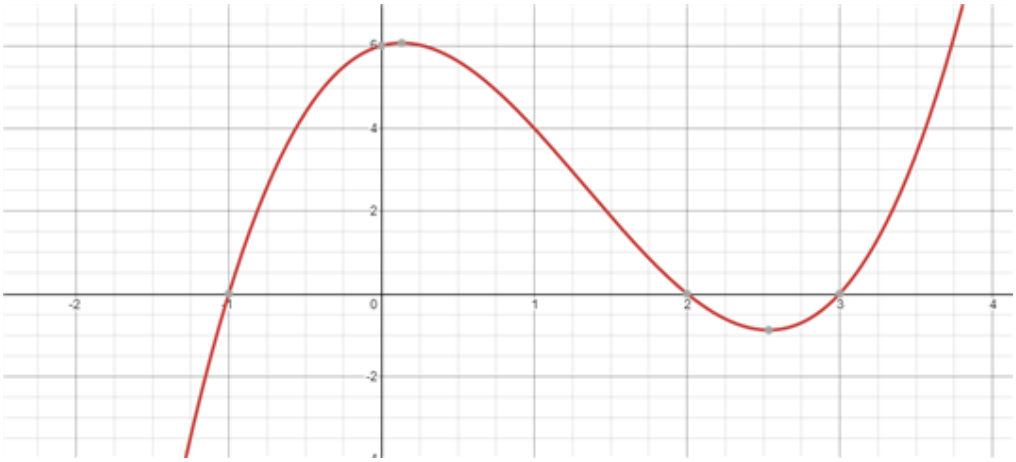
Find the zeros graphically

$$f(x) = x^3 - 4x^2 + x + 6$$



Find the zeros graphically

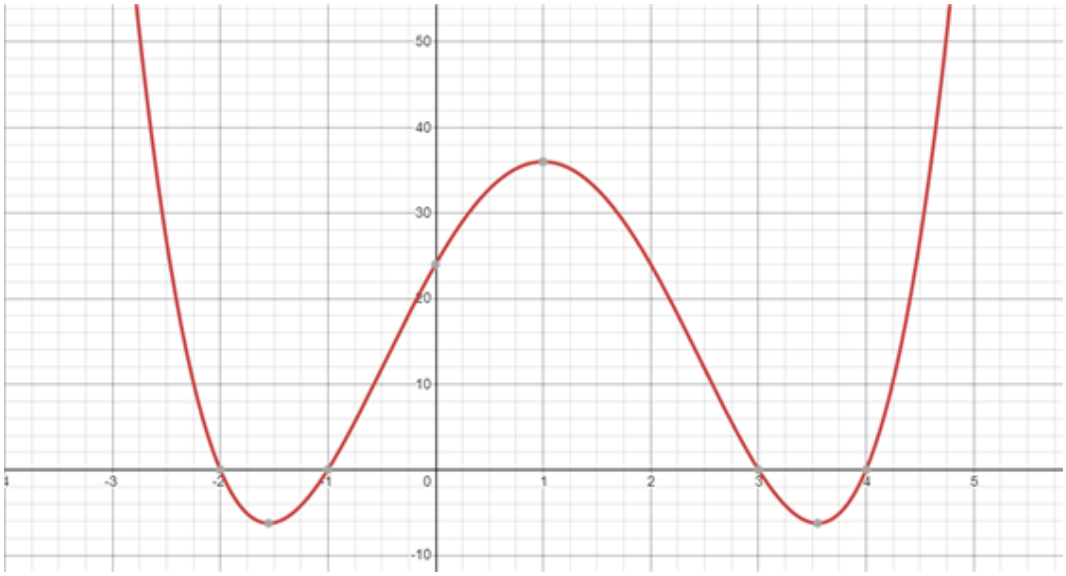
$$f(x) = (x+1)(x-3)(x-2)$$



How many zeroes will the following have?

$$f(x) = x^4 - 4x^3 - 7x^2 + 22x + 24$$

Find them by graphing



Write a polynomial function in FACTORED form from the given zeros.

$x = 2, \ -3, 1$

$x = \frac{1}{2}, \ -4, \ -\frac{2}{3}$

Write a polynomial function in FACTORED form from the given zeros.

$x = 0, \ -5, 2$

Attachments

HW KEY 8-1 Polynomial Division.pdf