BECA / Huson / Algebra 2: Polynomials Name:
14 November 2023

2.10 Do Now Quiz - Find the zeros of a factored polynomial (A.APR.3)

1. Write down the solutions to the following polynomial equation

$$x(x-5)(x+2)=0$$

2. Write down a polynomial function $f(x)$ with roots $x=4,-3,7$

3. Given $f(x)=x(x+5)(x+1)(x-9)$. Select the true statements.
   (a) $f(5)=0$
   (b) f has degree 3.
   (c) One of the zeros of f is 9.
   (d) An ordered pair satisfying the equation is $(-1,0)$
   (e) $f(0)=0$

4. Write a recursive definition of the sequence $a_1=5$, $a_2=-15$, $a_3=45,\ldots$

2.10b Do Now Quiz - Find the zeros of a factored polynomial (A.APR.3)

1. Given the solutions to $f(x) = 0$ are $x = 0, 5, -2$. Write down a possible polynomial function f.

2. Write down the zeros to the following polynomial:

$$f(x) = (x-4)^2(x+1)(x-8)$$

3. Given $f(x) = x^2(x+1)(x+5)$. Select the true statements.
   (a) The degree of the polynomial is odd.
   (b) The x intercepts of the function's graph are at $0, 1$, and 5.
   (c) Regarding end behavior, as x increases without bound in either the positive or negative direction, y increases in the negative direction.
   (d) An ordered pair satisfying the equation is $(-1, 0)$

4. Write a recursive definition of the arithmetic sequence a.

n	a_n
1	-8
2	-3
3	2

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2.11 Do Now Quiz - Add, subtract, and multiply polynomials (A.APR.1)

1. Evaluate the polynomial for $x = 0$:

$$f(x) = x^4 - 13x^2 - 23x + 17$$

2. Add $(x^4 + 2x^3 - x^2 + 3x + 1) + (2x^4 - x^3 + 7x^2 + 2x + 6)$

3. Simplify $(3x^4 - 5x^2 - 9x + 10) - (x^4 - 4x^3 + 7x^2 - 9x - 2)$

4. Multiply $(x^2 + 3) \times (2x^3 - 5x^2 + 3x + 2)$ using the grid method.

	$2x^3$	$-5x^2$	$+3x$	$+2$
x^2				
$+3$				

5. Write a recursive definition for $a_1 = 7$, $a_2 = 1$, $a_3 = -5$, $a_4 = -11$, ...

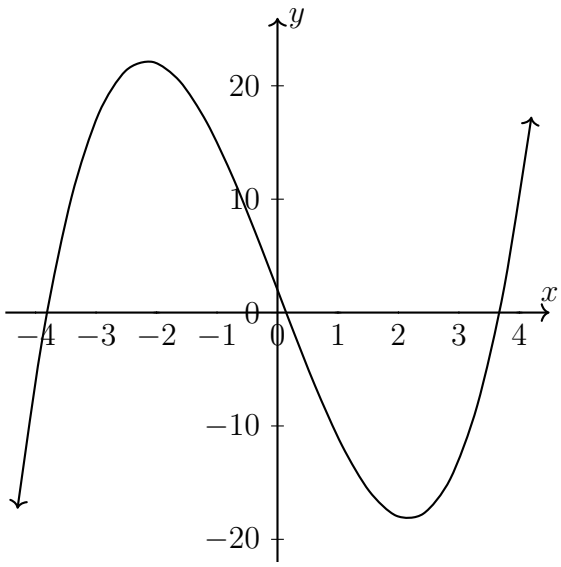
2.11 Do Now Quiz: Graph polynomials, identify zeros, end behavior F.IF.7c

1. Given the function $f(x) = (x-2)^2(x+7)(x-8)$

   (a) Write down the zeros of the function

   (b) What is the degree of $f(x)$?

2. Write down the end behavior of the function shown at right $g(x) = x^3 - 14x + 2$



3. Given $h(x) = x^3 + 11x^2 + 32x + 28$ which is graphed below.

   (a) Write down the factors of the function.

   (b) Which factor has a multiplicity of 2?