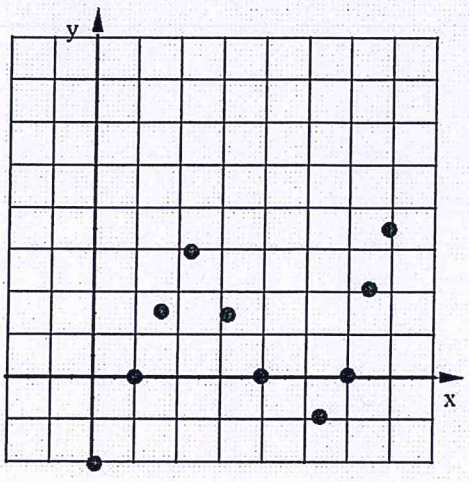
Bellwork Alg 2 Friday, November 8, 2019

1. Write an equation for a 7th degree polynomial with the following distinct zeros: $-4, 0, 3, 5$

$f(x) =$

For 2 and 3 use the this scatter plot.



2. This function could be modeled with a _____ degree polynomial

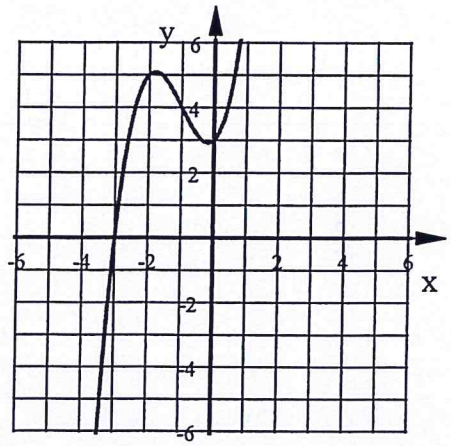
whose leading coefficient is _____

3. Which equations seem like they could be used to model this data. Select all that apply.

A) $y = (x+1)(x+4)(x+6)$ B) $y = x^3 - 10x^2 + 33x - 2$

C) $y = (x-1)(x-4)(x-6)$ D) $y = -x^3 + 8x^2 - 29x - 2$

4.Use the function graphed below:



Which could be the polynomial shown in the graph?

A) $y = -x^3 + 3x^2 - 4x + 3$ B) $y = x^3 + 3x^2 + x + 3$

C) $y = x^3 - 2x^2 + x + 3$ D) $y = x^3 + 3x^2 + x - 3$

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ANSWERS

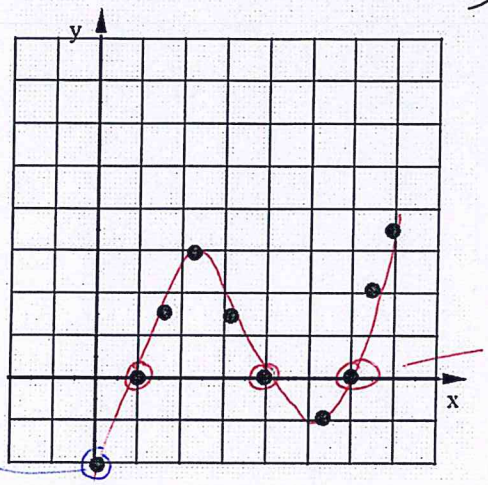
1. Write an equation for a 7th degree polynomial with the following distinct zeros: $-4, 0, 3, 5$

HERE ARE 2 POSSIBLE ANSWERS - THERE ARE MORE POSSIBILITIES

$f(x) =$

$x^2(x+4)(x-3)^2(x+5)$ or $x^4(x+4)(x-3)(x+5)$

For 2 and 3 use the this scatter plot.



y-INT: -2

zeros are 1, 4, & 6

2. This function could be modeled with a 3rd degree polynomial

whose leading coefficient is POSITIVE

3. Which equations seem like they could be used to model this data. Select all that apply.

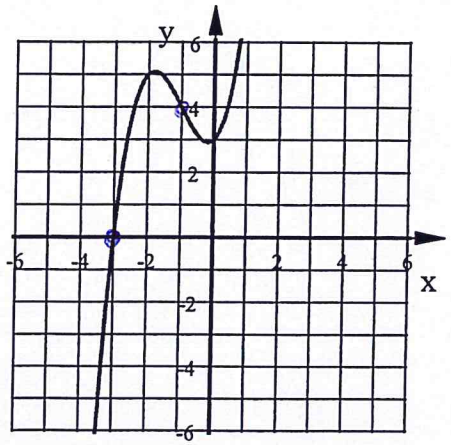
A) $y = (x+1)(x+4)(x+6)$ Zeros are -1, -4, & -6

B) $y = x^3 - 10x^2 + 33x - 2$ pos cubic with y-int of -2 ✓

C) $y = (x-1)(x-4)(x-6)$ Zeros are 1, 4, & 6 ⇒ x-INT ✓

D) $y = -x^3 + 8x^2 - 29x - 2$ NEG CUBIC

4. Use the function graphed below:



- POSITIVE cubic with y-INT = 3 ELIMINATES A & D
- pick a point on the graph and test the coordinates in the equation. (-3, 0) or (-1, 4)

Which could be the polynomial shown in the graph?

A) $y = -x^3 + 3x^2 - 4x + 3$

B) $y = x^3 + 3x^2 + x + 3$ $(-1)^3 + 3(-1)^2 + (-1) + 3$ $= -1 + 3(1) - 1 + 3$ $= -1 + 3 - 1 + 3 = 4$ ✓

C) $y = x^3 - 2x^2 + x + 3$ $(-1)^3 - 2(-1)^2 + (-1) + 3$ $= (-1) - 2(1) - 1 + 3$ $= -1 - 2 - 1 + 3 = -1$ ✗

D) $y = x^3 + 3x^2 + x - 3$