

(42) $y = 4x^2 + 25x - 21$

x-int: $(-7, 0)$ $(\frac{3}{4}, 0)$

Zero
root

$$4x^2 + 25x - 21 = 0$$

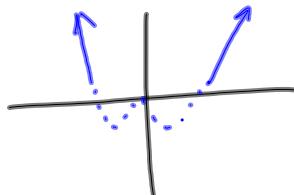
$$(x+7)(4x-3) = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

2-2 POLYNOMIAL FUNCTIONS

$$f(x) = a_n x^n + a_{n-1} x^{n-1} + \dots + a_1 x + a_0$$

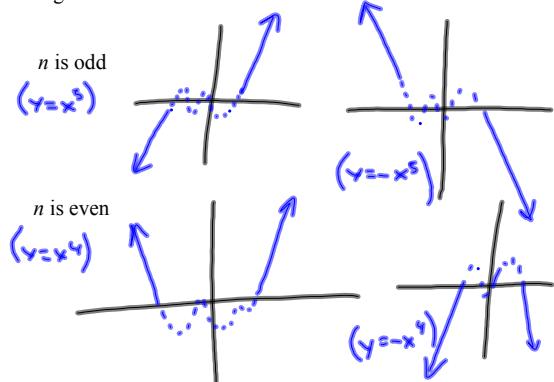
$$f(x) = 5x^4 + 3x^3 - 2x + 7$$



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Sep 22 - 11:27 AM

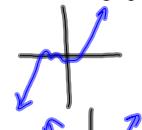
Leading coefficient test



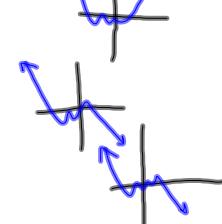
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Ex.1 Describe the right and left behavior of the graphs.

$$f(x) = x^3 - 6x$$



$$f(x) = x^4 + 3x^3 + 2x^2 - 8$$



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

$$f(x) = -x^5 + 2x^4$$

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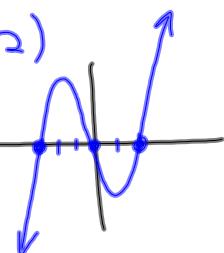
Ex 2 Find the zeros of the function and sketch a graph

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

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

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

$$x = \{0, -3, 2\}$$

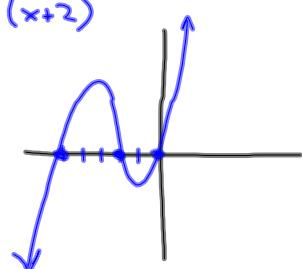


Ex 3 Find the zeros of the function and sketch a graph

$$f(x) = x^3 + 7x^2 + 10x$$

$$f(x) = x(x+5)(x+2)$$

$$x = \{0, -5, -2\}$$



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Ex 4 Find a polynomial function with -4, 2, and 5 as zeros

$$f(x) = (x+4)(x-2)(x-5)$$

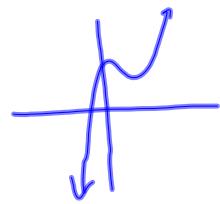
$$f(x) = (x^2 + 2x - 8)(x-5)$$

$$f(x) = x^3 + 2x^2 - 8x - 5x^2 - 10x + 40$$

$$f(x) = x^3 - 3x^2 - 18x + 40$$

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Ex 5 Sketch the graph of $f(x) = x^3 + x^2 + 1$



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Homework
p. 112
1-9, 33-39, 49-57 odds

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