- Starter End Behavior
- Calendar Math Quiz
- 2.2 Homework Questions
- 2.3 Complex Factoring and Zeros

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Starter #3

Describe the end behavior of each function. Can use calculator

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

2) $f(x) = x^2 + 8x + 13$

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

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

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Homework Questions

(5) $f(x) = x^3 - 4x$

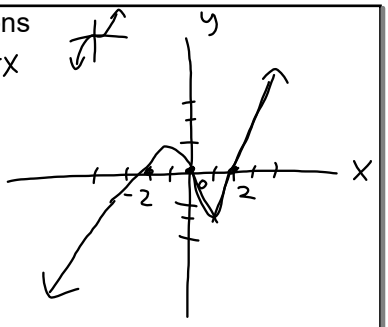
$x(x^2 - 4)$

$x = 0$

$(x-2)(x+2)$

$+2 \quad -2$

$x = 2 \quad x = -2$



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(13) $f(x) = (x^2-4)(x+5)^3(x-1)^2$

$(x+2)(x-2)(x+5)^3(x-1)^2$

z	m	T/C
-2	1	C
2	1	C
-5	3	C
1	2	T

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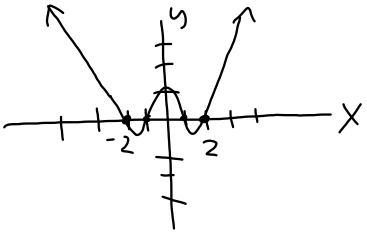
(16) $f(x) = (x^2-4)(x^2-1)$ (4)

$(x+2)(x-2)(x+1)(x-1)$



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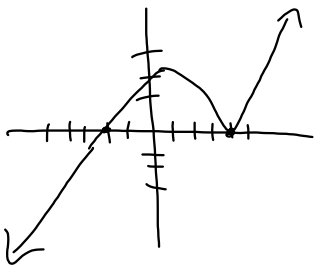
(17) $f(x) = (x-4)^2(x+2)$ (3)

$+4 \quad -2$



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even +
$y = +\infty, +\infty$
even −
$y = -\infty, -\infty$
odd +
$y = -\infty, \infty$
odd −
$y = \infty, -\infty$

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2.2 Complex Factoring and Zeros

Steps:

Set in $ax^2+bx+c=0$

Factor and Find Zeros

If you can't factor or take out GCFs use the quadratic formula.

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The Quadratic Formula ...

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

For Quadratic Equations

$ax^2 + bx + c = 0$

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https://www.youtube.com/watch?v=2IbABbfU6Zc

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ex 1

$6b^2 = -3b + 5$
$+3b - 5 = +3b - 5$
$6b^2 + 3b - 5 = 0$
$a = 6,\ b = 3,\ c = -5$

$X = \frac{-3 \pm \sqrt{9 - 4(-30)}}{2 \cdot 6}$

$X = \frac{-3 \pm \sqrt{9 + 120}}{12}$

$X = \frac{-3 \pm \sqrt{129}}{12}$

$X = \frac{-3}{12} \pm \frac{\sqrt{129}}{12}$

$X = -1/4 \pm \frac{\sqrt{129}}{12}$

$X = -1/4 + \frac{\sqrt{129}}{12}$

$X = -1/4 - \frac{\sqrt{129}}{12}$

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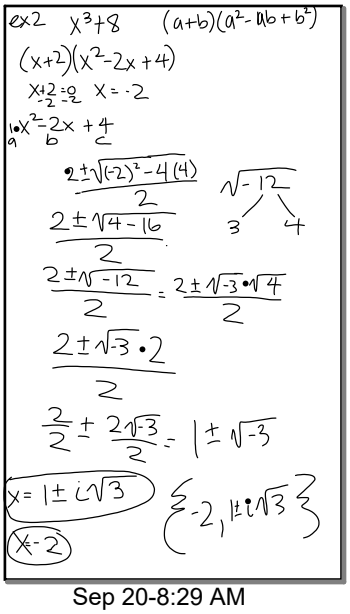

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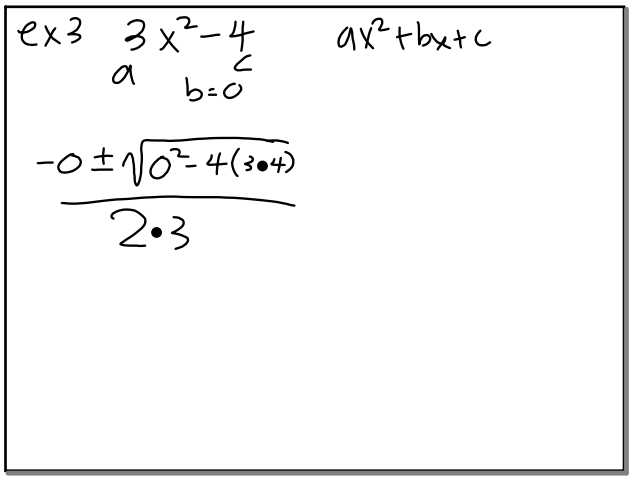

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a. always your highest power
b. cross/touch x-axis
c. not cross or touch
d. 2nd trace (calc)

ex4
a. 3
b: 3
c: no
d: $(-1.49,0)\cup(0,0)\cup(3.62,0)$

$\{-1.49, 0, 3.62\}$

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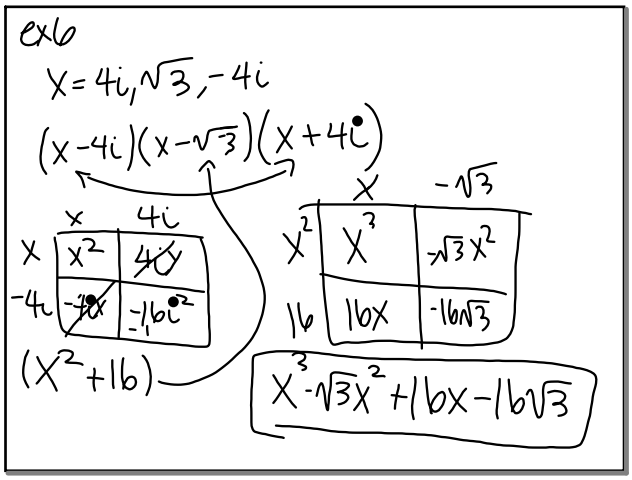

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