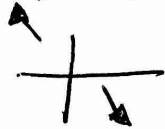


Simultaneous Roundtable

NO GRAPHING CALCULATORS!

1. Sketch the end behavior:

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



2. Sketch the end behavior:

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



3. Graph the polynomial:

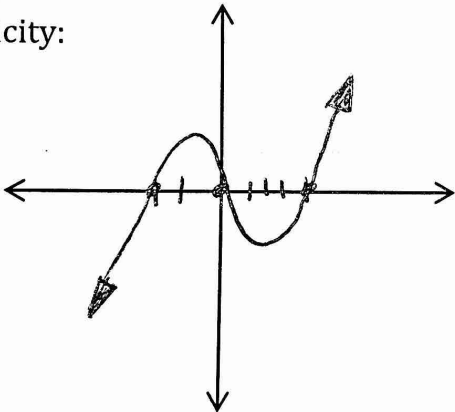
$$f(x) = x(x+2)(x-4)$$

a. End behavior:



b. x-intercepts and multiplicity:

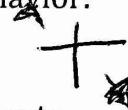
- $(0, 0) - 1$
- $(-2, 0) - 1$
- $(4, 0) - 1$



4. Graph the polynomial:

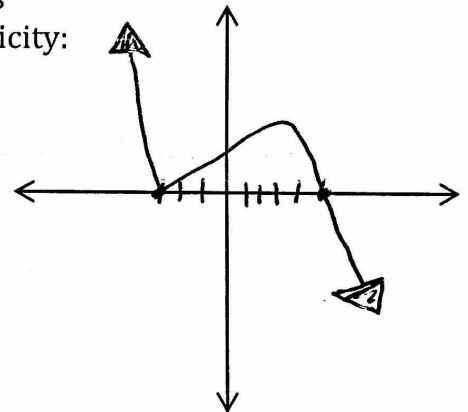
$$f(x) = -(x+3)^2(x-5)^3$$

c. End behavior:



d. x-intercepts and multiplicity:

- $(-3, 0) - 2$
- $(5, 0) - 3$



5. Graph the polynomial give that $(-2, 0)$ is an intercept

$$f(x) = x^3 - 6x^2 - x + 30$$

e. End behavior:

	1	-6	-1	30
	0	-2	16	-30
-2	1	-8	15	0

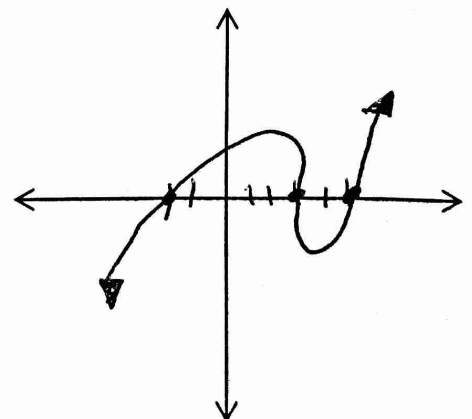
f. x-intercepts and multiplicity:

$$x^2 - 8x + 15$$

~~$(x-3)(x-5)$~~

$$(x-3)(x-5)$$

$$(3, 0)(5, 0)(-2, 0)$$

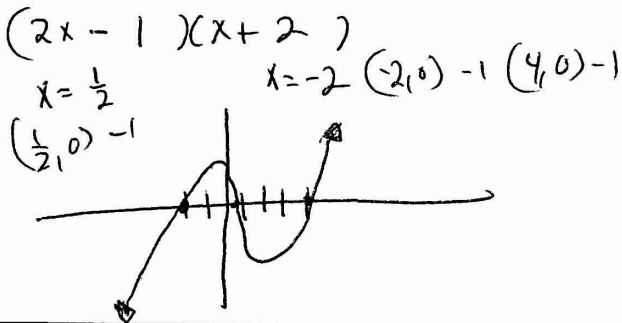


Sketch a graph given that (4,0) is an intercept

$$f(x) = 2x^3 - 5x^2 - 14x + 8$$

	2	-5	-14	8
		8	12	-8
4	2	3	-2	0

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



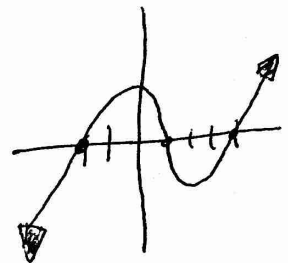
Sketch a Graph:

$$f(x) = x^3 - 3x^2 - 6x + 8$$

Given $x = -2$ is an x-intercept

	1	-3	-6	8
		-2	10	-8
-2	1	-5	4	0

$x^2 - 5x + 4$
 $(x - 4)(x - 1)$
 $x = 4$ $x = 1$
 $(4, 0)$ $(1, 0)$
 $(-2, 0)$



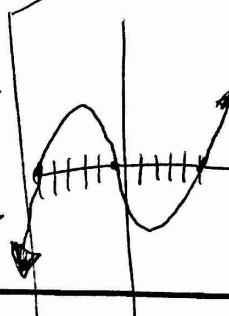
Sketch a graph given that $(x + 5)$ is a factor

$$f(x) = 2x^3 + x^2 - 50x - 25$$

$x+5=0$ $-5-5$	2	1	-50	-25
$x=-5$	0	-10	45	25
-5	2	-9	-5	0

$$2x^2 - 9x - 5$$

$a=2$
 $b=-9$
 $c=-5$
 $\frac{9 \pm \sqrt{(-9)^2 - 4(2)(-5)}}{2(2)}$
 $\frac{9 \pm \sqrt{121}}{4}$



Question:

Find the solutions:

$$f(x) = 5x^3 + 9x^2 - 26x - 24$$

Given $(x - 2)$ is a factor

$x-2=0$ $\rightarrow 2$	5	9	-26	-24
$x=2$	0	10	30	24
2	5	19	12	0

$$5x^2 + 19x + 12$$

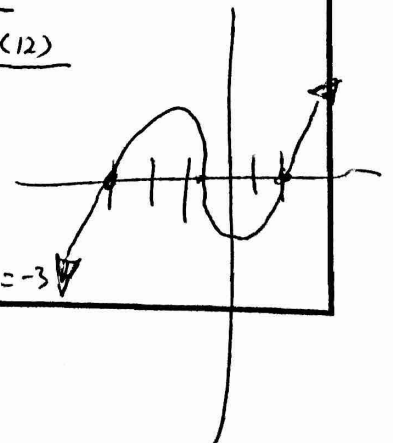
$$x = \frac{-19 \pm \sqrt{(19)^2 - 4(5)(12)}}{2(5)}$$

$$x = \frac{-19 \pm \sqrt{121}}{10}$$

$$x = \frac{-19 \pm 11}{10}$$

$$x = \frac{-8}{10} = -\frac{4}{5} = -0.8$$

$$x = \frac{-30}{10} = -3$$



$\frac{9+11}{4} = \frac{20}{4} = 5$ $\frac{9-11}{4} = \frac{-2}{4} = -\frac{1}{2}$
 $(-5, 0)$ $(5, 0)$ $(-\frac{1}{2}, 0)$