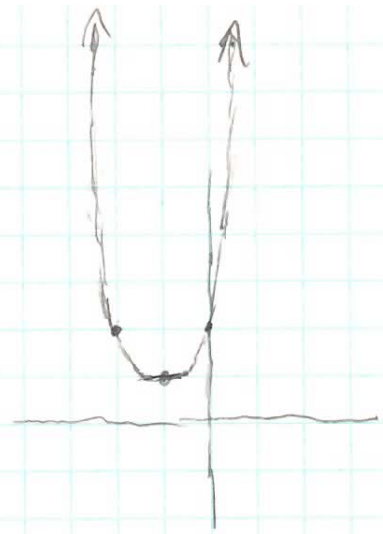


V2 HW Day 2 Key

1. Vertex = $(-1, 1)$, LC = 1

$x \rightarrow -\infty, y \rightarrow \infty$
 $x \rightarrow \infty, y \rightarrow \infty$ Quartic

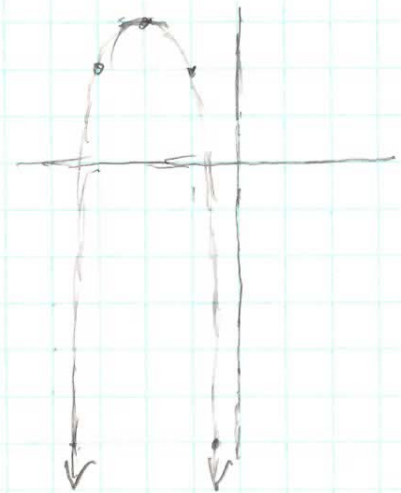
x	y
-1	1
0	2
-2	2
1	17
-3	17



2. Vertex = $(-2, 3)$ LC = -1, Quartic

$x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow \infty$

x	y
-2	3
-1	2
-3	2
0	-12
-4	-12

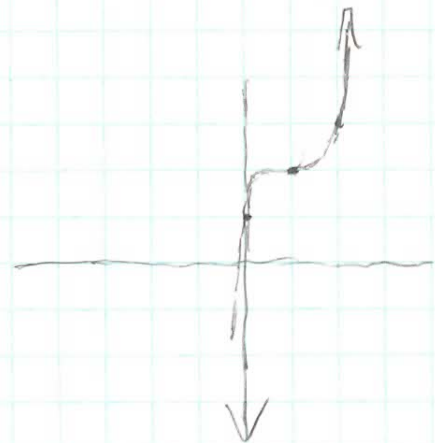


3. LC = 1 $x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow \infty$

Quartic No min or max

y int = $(0, 1)$

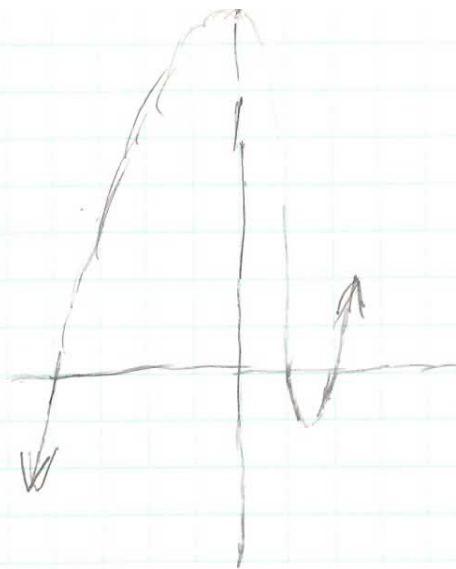
x	y
1	2
0	1
2	3
-1	-30
3	34



U2 Day 2
HW Key

④

1. $LC = 1$, Cubic $x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow \infty$
2. $y \text{ int} = (0, 8)$
3. $f(x) = (x-1)(x-2)(x+4)$
4. $(-4, 0), (1, 0), (2, 0)$ all mult 1



⑤

1. $LC = -1$, cubic $x \rightarrow -\infty, y \rightarrow \infty$
 $x \rightarrow \infty, y \rightarrow -\infty$
2. $y \text{ int} = (0, 0)$
3. $f(x) = x(4-x^2) = x(2+x)(2-x)$
4. $(-2, 0), (0, 0), (2, 0)$ all mult 1



⑥

1. $LC = 1$, cubic, $x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow \infty$
2. $y \text{ int} = (0, 0)$
3. $f(x) = x^3 - 5x^2 + 6 = x(x^2 - 5x + 6)$
 $= x(x-3)(x-2)$
4. $(0, 0), (2, 0), (3, 0)$ all mult 1



U2 Day 2
HW / Key

⑦

1. LC = 2, cubic $x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow \infty$

2. y int. = (0,0)

3. $f(x) = 2x^3 + x^2 - 3x = x(2x^2 + x - 3)$
use grouping $= x(2x^2 - 2x + 3x - 3)$
 $= x(2x(x-1) + 3(x-1))$
 $= x(2x+3)(x-1)$

4. $(-3/2, 0), (0, 0), (1, 0)$



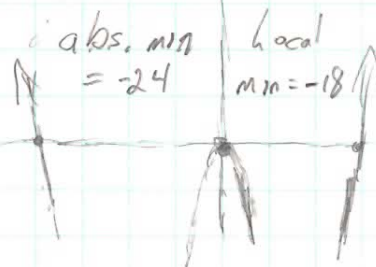
⑧

1. LC = 1, Quartic $x \rightarrow -\infty, y \rightarrow \infty$
 $x \rightarrow \infty, y \rightarrow \infty$

2. y int = (0,0)

3. already factored

4. $(-4, 0)$ mult 1, $(0, 0)$ mult 2, $(3, 0)$ mult 1



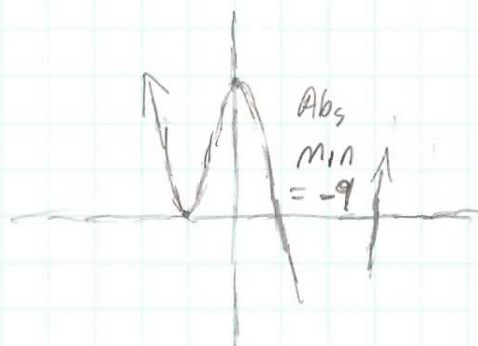
⑨

1. LC = 1, Quartic, $x \rightarrow -\infty, y \rightarrow \infty$
 $x \rightarrow \infty, y \rightarrow \infty$

2. y int = (0, 3)

3. already factored

4. $(-1, 0)$ mult 2, $(1, 0)$ mult 1, $(3, 0)$ mult 1



⑩

1. LC = 1, cubic $x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow \infty$

2. y int = (0,0)

3. already factored

4. $(0, 0)$ mult 2, $(2, 0)$ mult 1

Function has 2 Imaginary Os

