Intermediate Algebra B LT 6.1 HW

Name Key

6.1A – Sketching Graphs of Polynomials Using X-Intercepts

Sketch each polynomial using the x-intercepts and your graphing calculator. Label each x-intercept on the graph as an ordered pair (x, 0) and list it in the box with its multiplicity.

1. $y = -2(x-2)(x+7)^2$

$y = -2(x-2)(x+7)(x+7)$

$x=2 \quad x=-7 \quad x=-7$

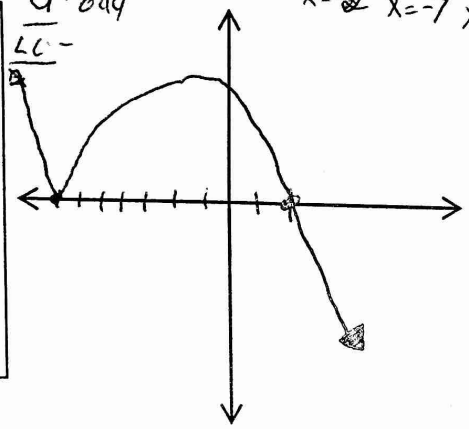
d: odd

LC: −

x-intercepts and their multiplicity:

(2, 0) −1

(−7, 0) −2



2. $y = x(x+1)(x-3)(x-1)$

$x=0 \quad x=-1 \quad x=3 \quad x=1$

d: even

LC: +

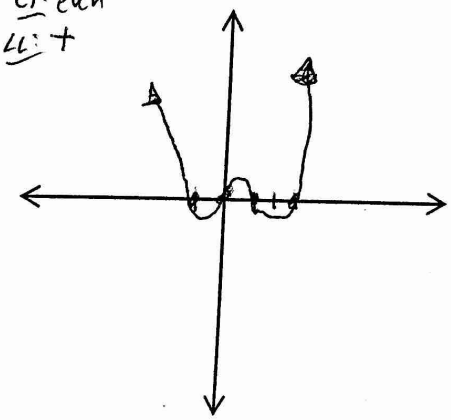
x-intercepts and their multiplicity:

(0, 0) −1

(0, −1) −1

(0, 3) −1

(0, 1) −1



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

$x=-1 \quad x=-2 \quad x=2$

d: odd

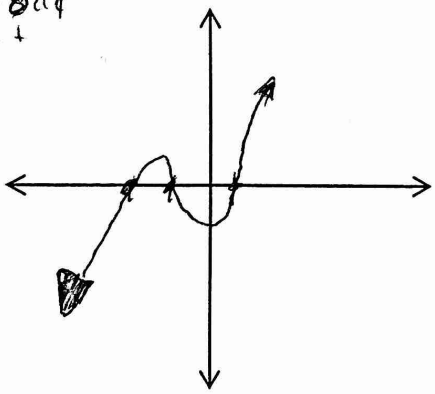
LC: +

x-intercepts and their multiplicity:

(−1, 0) −1

(−2, 0) −1

(2, 0) −1



4. $g(x) = -x(x+2)^3(x-1)$

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

$x=0 \quad x=-2 \quad x=-2 \quad x=-2 \quad x=1$

d: odd

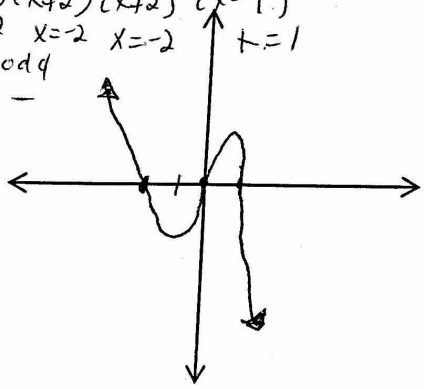
LC: −

x-intercepts and their multiplicity:

(0, 0) −1

(−2, 0) −3

(1, 0) −1



5. $f(x) = -2(x+1)^2(x-2)^2$

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

$x=-1 \quad x=-1 \quad x=2 \quad x=2$

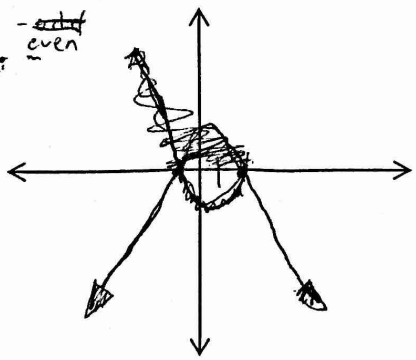
d: ~~odd~~ even

LC: −

x-intercepts and their multiplicity:

(−1, 0) −2

(2, 0) −2



6. $g(x) = (x+2)^2(x-1)$

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

$x=-2 \quad x=-2 \quad x=1$

x-intercepts and their multiplicity:

(−2, 0) −2

(1, 0) −1