Name_____ ID: 1

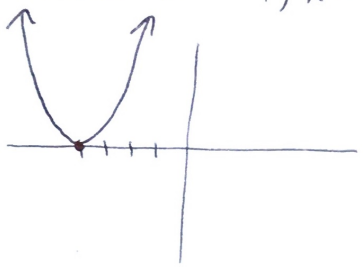
2.2 Graphing Polynomial Equations

Date_____ Period____

Find all roots and graph the function.

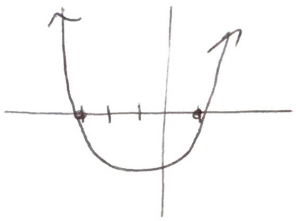
1) $f(x) = (x+4)^2$

roots: $x = -4, x = -4$



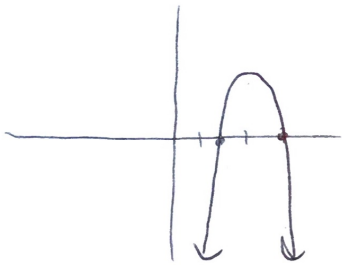
2) $f(x) = (x+3)(x-1)$

roots: $x = -3$ $x = 1$



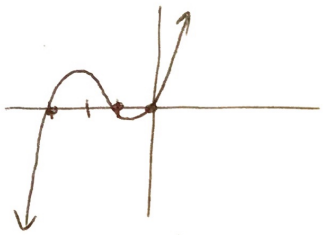
3) $f(x) = -2(x-4)(x-2)$

roots: $x = 4, 2$



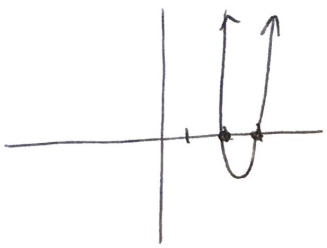
4) $f(x) = x(x+1)(x+3)$

roots: $x = 0, -1, -3$



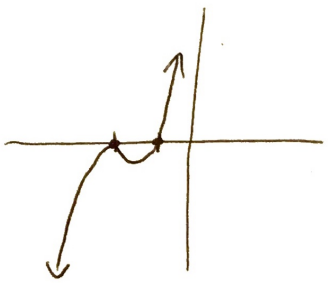
5) $f(x) = (x-3)(x-2)$

roots: $x = 3, 2$



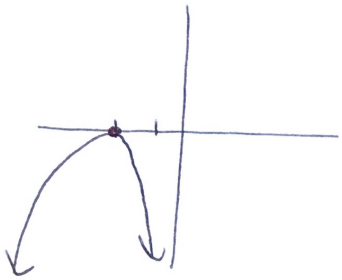
6) $f(x) = (x+1)(x+2)^2$

roots: $x = -1$, $x = -2, x = -2$



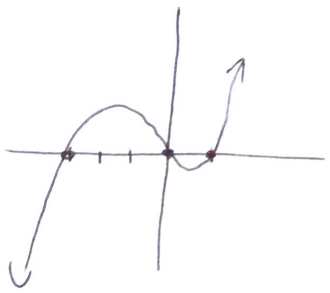
7) $f(x) = -3(x+2)^2$

roots: $x = -2,\ x = -2$



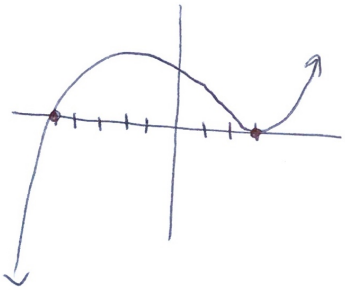
8) $f(x) = x(x-1)(x+3)$

roots: $x = 0,\ x = 1,\ x = -3$



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

roots: $x = 3,\ x = 3,\ x = -5$



10) $f(x) = -x(x+3)(x-4)$

roots: $x = 0,\ x = -3,\ x = 4$

Write a possible polynomial function of least degree that has the given zeros.

11) $-1,\ 5,\ -3$

$y = (x+1)(x-5)(x+3)$

12) $-5,\ -2,\ \frac{1}{5}$

$y = (x+5)(x+2)(5x-1)$

$5x - 1 = 0$

$5x = 1$

$x = \frac{1}{5}$