

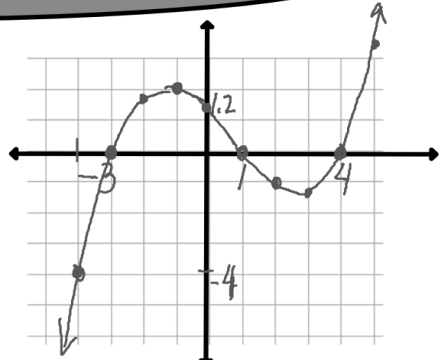
6.8 / 6.9 Graphing and Writing Polynomial Functions

ex 1

$y = \frac{1}{10}(x+3)(x-1)(x-4)$   
 ~~$\frac{1}{10}(x-3)(x-6)$~~

x	-4	-3	-2	-1	0	1	2	3	4	5
y	-4	0	1.8	2	1.2	0	-1	-1.2	0	3.2

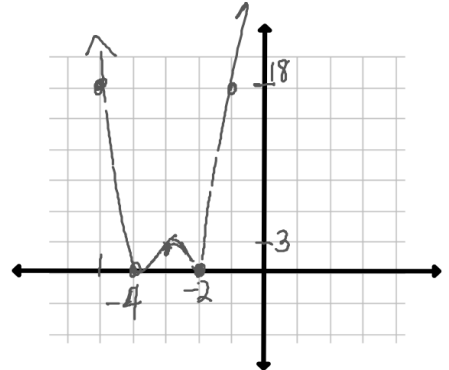
$\frac{1}{10}(x-5)(x-8)$



ex 2

$y = 2(x+2)^2(x+4)^2$

x	-5	-4	-3	-2	-1				
y	18	0	2	0	18				



ex 3

Write a cubic equation in the form  $f(x) = a(x-r_1)(x-r_2)(x-r_3) \dots$  if  $(-3, 0)$ ,  $(-1, 0)$ ,  $(-2, 1)$ , and  $(3, 0)$  are on the graph.

$1 = a(-2-(-3))(-2-(-1))(-2-(3))$   
 $1 = a(1)(-1)(-5)$   
 $a = \frac{1}{5}$        $f(x) = \frac{1}{5}(x+3)(x+1)(x-3)$