Polynomial Functions
Writing Equations from the Graph

Name _____

Crossing zeros at $(5,0) \rightarrow (x-5)$

Touching zeros at $(-4,0) \rightarrow (x+4)^2$

Degree 3

Equation: $f(x) = a(x-5)(x+4)^2$

y-intercept (0, -8) $-8 = a(0-5)(0+4)^2$

Solve for a

$-8 = a(-5)(4)^2$

$-8 = a(-5)(16)$

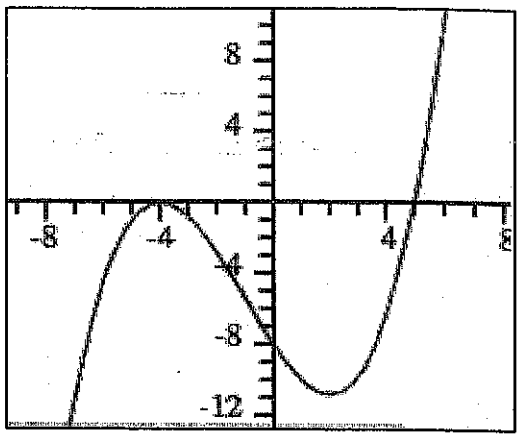
$\frac{-8}{-80} = \frac{-80a}{-80}$

$\frac{1}{10} = a$

Equation in factored form with the value for a:

$y = \frac{1}{10}(x-5)(x+4)^2$

Check your answer with the calculator.



Use a standard window.

Crossing zeros at _____

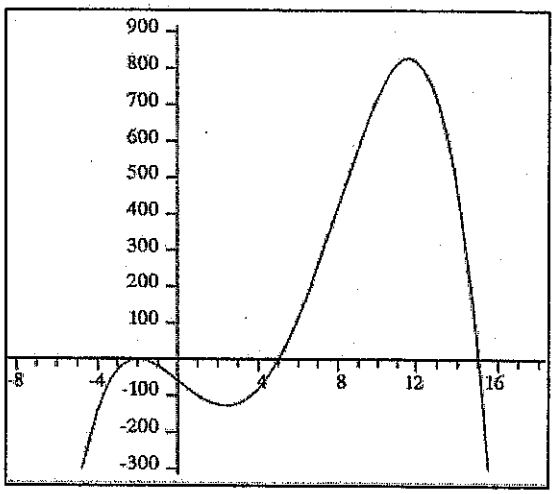
Touching zeros at _____

Degree _____

Equation: f(x) = a ( ) ( ) ( )

y-intercept (0, -60)

Solve for a



xmin = -10
xmax = 25
xscl = 5
ymin = -300
ymax = 900
yscl = 100

Equation in factored form with the value for a:

=

Check your answer with the calculator.