ALGEBRA II
Chapter 4 section 10
Write Quadratic functions and Models
p. 309

FOCUS: You will be able to write a quadratic function from different graphs
and tables.

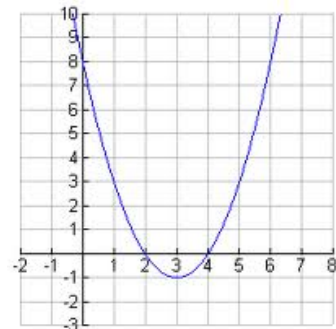No new Vocab, just using the three forms of a quadratic equation

VERTEX FORM: $y = a(x - h)^2 + k$
INTERCEPT FORM: $y = a(x - p)(x - q)$
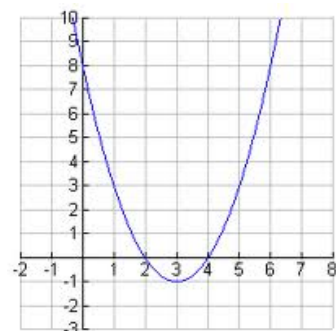STANDARD FORM: $y = ax^2 + bx + c$

Ex. 1: Write a quadratic function in vertex form, You know to use vertex form
because the picture gives you the vertex and a point.

Plug in h and k, and the given point for x and y
Solve for "a" and rewrite the equation.

Ex. 2: Write the quadratic function in intercept form. You know to use
intercept form because the picture gives you the intercepts and a point

Plug in the intercepts for p and q , and the point for x and y,
solve for a , then rewrite the equation

Ex. 3:   Write a quadratic function in standard form.
Write a quadratic function in standard form for the parabola that passes through
the given points   (-2, 30)   (1, 6)   (4, 36)

How to: substitute the coordinates of each point into $y = ax^2 + bx + c$ to get a
system of three linear equations.   Solve the system using elimination.

Solve a multi-step problem using the calculator!

The drama club at DHS decides to sell t-shirts as a fundraiser.   The table shows
the data from the last four years for the price charged for a t-shirt x, and the
total revenue earned from selling them   y.   Use a graphing calculator to find the
best-fitting quadratic model for the data.   P. 308 shows how.

x	8	10	12	14
y	1180	1450	1675	1550