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**Advanced Algebra – Assignment 4-3**

4-48 When Ms. Bibbi kicked a soccer ball, it traveled a horizontal distance of 150 feet and reached a height of 100 feet at its highest point. Sketch the path of the parabola and find the equation of the parabola that models it.

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4-49 At the skateboard park, the hot new attraction if the *U-Dip,*  a cement structure embedded into the ground. The cross-sectional view of the *U-Dip* is a parabola that dips 15 feet below the ground. The width at ground level, its widest part, is 40 feet across. Sketch the cross sectional view of the *U-Dip*, and find the equation of the parabola that models it.

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4-55 Find the x- and y-intercepts of the graphs of the two equations below.

a. y = 2x2 + 3x – 5 b. y = 

4-58 If g(x) = x2 – 5, find:

a. g() b. g(h+1)

4-65 Draw the graph of y = 2x2 + 3x + 1

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1. Find the x- and y-intercepts.
2. Where is the line of symmetry of this parabola? Write its equation.
3. Find the coordinates of the vertex.

4-66 Change the equation in the previous problem so that the parabola has only one x-intercept.