

**Practice 2.2.2 part 2****Remember to show your work!**

2-64. Your friend is not allowed to use a graphing calculator in her math class. Explain to her how she can make a good sketch of the graph of the function  $y=2(x+3)^2-8$  without using a calculator and without having to make a table. Be sure to explain how to locate the vertex, whether the parabola opens upward or downward, and how its shape is related to the shape of the graph of

a. Write an explanation.

b. Your friend also needs to know the x- and y- intercepts. **Show** her how to calculate them without having to draw an accurate graph or use a graphing calculator.

2-65. Solve the equations below. Check your solutions, if possible.

a.  $2x^2 - 6x = -5$

b.  $\frac{5}{9} - \frac{x}{3} = \frac{4}{9}$

2-66. Write a possible exponential function in  $y=ab^x$  form for each graph described below.

a. Has a y-intercept of (0,3) and passes through the point (2,48).

b. Has a y-intercept of (0,2) and passes through (3,0.25)

2-67. Multiply each of the following expressions.

a.  $2x^2(3x + 4x^2y)$

b.  $(x^3y^2)^4(x^2y)$