Use the quadratic formula to solve the following problems.

1) $2x^2 + 39 = -18x$

2) $5x^2 + 3x + 1 = 0$

3) $6x^2 + 11x - 2 = 0$

4) $16x^2 + 9 = 24x$

Now let's try a couple word problems using the quadratic formula.

5) The height of a flare that Mrs. Forrester has fired from the deck of a sinking ship can be modeled by $h = -16t^2 + 104t + 56$, where h is the height of the flare above the water and t is the time in seconds. Find the time it takes the flare to hit the water.

6) The length of a rectangle exceeds it width by 4 inches. Find the dimensions of the rectangle if its area is 96 square inches.