$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Name: _____ Block: _____

Pre-Calculus 11: Solving Quadratics Quiz #2

Full credit will only be awarded for all work shown in a neat and organized manner.

1. Solve using the quadratic formula. Simplify your answer as much as you can (*answer exactly*).
   a. $-5x^2 + 9x - 3 = 0$

   b. $\frac{1}{3}x^4 - 5x^2 - 42 = 0$

   c. $\sqrt{7x^2 - 20x} = 5 - 2x$

2. For what value(s) of *p* will the quadratic equation $px^2 + 6x + 14 = 0$ have:
   i. One solution ii. 2 solutions iii. No solutions

3. A picture is 12cm x 15cm. When the picture is put inside a frame with the same width all around, the total area of the frame and picture is 1.5 times larger than the picture on its own
    a. How wide is the frame (*answer to 1 decimal place)*?
    b. What are the overall dimensions of the frame and picture together *(answer to 1 decimal place)*?

4. Mr. G is driving up to Whistler for the weekend which is 120km away. On the way back, he drives 5km/h slower and it takes 9 minutes longer than the way up to Whistler. (*Answer to 2 decimal places*)
    a. How fast did he drive on the way up to Whistler?
    b. How long did it take him to get home from Whistler?