

Math 06, Homework 3 on Sections 8.1, 8.2
due Tue, Feb 19 at the start of class.

These first ten questions from the book are 1 point each. Write your work on a separate sheet. Show clearly all your working out and reasoning and check your answers match the ones in the book at the end of the section.

1. **Q1, p. 817.** Solve by factoring: $x^2 + 9x + 14 = 0$
 2. **Q13, p. 817.** Solve using square-roots: $2x^2 - 12 = 0$
 3. **Q21, p. 817.** Find the number to add to make a perfect square: $x^2 + 18x$
 4. **Q33, p. 818.** Solve by completing the square: $x^2 + 10x = 4$
 5. **Q41, p. 818.** Solve by completing the square: $z^2 - 5z - 7 = 0$
 6. **Q3, p. 833.** Solve by factoring and with the formula: $t^2 + 8t - 65 = 0$
 7. **Q9, p. 833.** Solve by completing the square and with the formula: $x^2 - 4x - 7 = 0$
 8. **Q49, p. 834.** Find the discriminant and number of real solutions: $2w^2 - 5w + 11 = 0$
 9. **Q53, p. 834.** Solve: $3t^2 - 7t + 1 = 0$
 10. **Q65, p. 835.** The product of two consecutive integers is 72. What are the two integers?
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These next eight questions are 3 points each. It is very important that you show clearly any work you had to do to get the answer.

- (8.1) Q1.** What do you need to add to $x^2 - 3x$ to make it a perfect square?
- (8.1) Q2.** Solve: $x^2 = 9$ **(8.1) Q3.** Solve by completing the square: $x^2 + 2x = 3$
- (8.1) Q4.** Solve by completing the square: $x^2 - 8x = -20$
- (8.2) Q5.** Solve using the quadratic formula: $x^2 + 1 = 0$
- (8.2) Q6.** Solve using the quadratic formula: $x^2 + 2x = 3$
- (8.2) Q7.** Find the discriminant and the number of real solutions: $3x^2 - 4x + 1 = 0$
- (8.2) Q8.** Solve using the quadratic formula: $4x^2 - 5x - 3 = 0$