Math 05, Extra Credit Homework 12 on Sections 9.3 - 9.6

Hand in by Tue, May 3 at the start of class.

Write all your working out and answers on a separate sheet. It is very important that you show clearly any work you had to do to get the answer. These first ten questions are 2 points each and **the answers are on page 2**.

(1) Solve with the quadratic formula: $x^2 + 1 = 0$

(2) Solve with the quadratic formula: $x^2 + 6x + 9 = 0$

(3) Solve with the quadratic formula: $3x^2 = x + 1$

(4) Solve by factoring: $x^2 - 7x - 18 = 0$

(5) Solve by factoring: $6x^2 = 7x - 2$

(6) Solve by any method: $6y^2 = -24$

(7) Solve by any method: $5x^2 - 10x = 0$

(8) Solve by any method: $x^2 + 20 = 9x$

(9) The product of the first two of three consecutive integers is 16 more than 10 times the third. Find the three integers.

(10) Sketch the graph of the parabola: $y = x^2 + 2x - 3$

These next eight questions are 2 points each. Show clearly all your working out and reasoning.

(11) Solve with the quadratic formula: $x^2 - 2x - 1 = 0$

(12) Solve with the quadratic formula: $3x^2 + 2x = -1$

(13) Solve by factoring: $x^2 - x = 12$

(14) Solve by factoring a difference of squares: $-3x^2 = -147$

(15) Solve by any method: $6x^2 + x = 0$

(16) Solve by any method: $-4x^2 = 1$

(17) The product of a number and 10 more than the number is 39. Find the number.

(18) Sketch the graph of the parabola: $y = 2 - x^2$

Answers to questions (1)-(10):

(1) $x = \pm i$

(2) $x = -3$

(3) $x = \dfrac{1 \pm \sqrt{13}}{6}$

(4) $x = -2$ or $x = 9$

(5) $x = 2/3$ or $x = 1/2$

(6) $y = \pm 2i$

(7) $x = 0$ or $x = 2$

(8) $x = 4$ or $x = 5$

(9)   The three numbers are either 12, 13 and 14 or -3, -2 and -1.

(10)

$y = x^2 + 2x - 3$