

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

Write all your working out and answers on your own notepaper - no need to write the questions. Please use lots of space.

It is very important that you show clearly any work you had to do to get your answers. Just writing the answer down with no work shown is not enough. Every question is worth 2 points.

The solutions to these first 10 questions are on page 2. Check that you get the same answers. If you don't, then look at your notes or the book or ask me. Only do the last eight questions when you are sure you understand the first ten.

- (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: $y = x^2 + 2x - 3$
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Eight more questions¹. 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: $-3x^2 = -147$

¹questions continue on page 2

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

(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)

