

## Math 05, Homework 11 on Sections 8.4 - 8.5, 9.1 - 9.2

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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.

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*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) Add:  $7\sqrt{5} + \sqrt{45}$

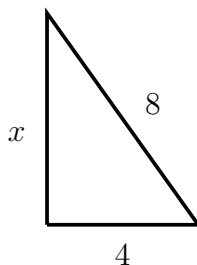
(2) Compute:  $\frac{26}{\sqrt{3}} - 4\sqrt{12}$

(3) Multiply:  $\sqrt{7}(2\sqrt{7} - 3\sqrt{21})$

(4) Simplify completely:  $\frac{\sqrt{2}\sqrt{36}}{\sqrt{6}}$

(5) Solve:  $4x^2 = 3$

(6) Solve:  $(x + 5)^2 = -18$



(7) Find  $x$  and simplify it:

(8) Solve by completing the square:  $x^2 + 2x = 6$

(9) Solve by completing the square:  $x^2 - 8x = -10$

(10) Solve by completing the square:  $x^2 + 5x + 6 = 0$

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Eight more questions<sup>1</sup>. Show clearly all your working out and reasoning.

(11) Subtract:  $8\sqrt{5} - 5\sqrt{125}$

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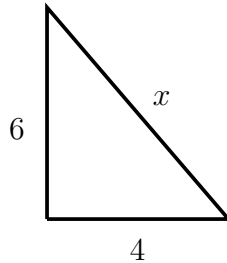
<sup>1</sup>questions continue on page 2

(12) Multiply:  $\sqrt{11}(3\sqrt{11} - 4\sqrt{22})$

(13) Simplify completely:  $\frac{\sqrt{2}\sqrt{98}}{\sqrt{7}}$

(14) Solve:  $9x^2 = 5$

(15) Solve:  $(x - 1)^2 = -1$



(16) Find  $x$  and simplify it:

(17) Solve by completing the square:  $x^2 + 4x = 1$

(18) Solve by completing the square:  $x^2 - 6x = -10$

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**Answers to questions (1)-(10):**

(1)  $10\sqrt{5}$

(2)  $\frac{2\sqrt{3}}{3}$

(3)  $14 - 21\sqrt{3}$

(4)  $2\sqrt{3}$

(5)  $x = \pm \frac{\sqrt{3}}{2}$

(6)  $x = -5 \pm 3\sqrt{2}i$

(7)  $4\sqrt{3}$

(8)  $x = -1 \pm \sqrt{7}$

(9)  $x = 4 \pm \sqrt{6}$

(10)  $x = -2$  or  $x = -3$