Get x by itself

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Each of the three parts was worth 4 points for a total of 12. The median and mode were 12. (In addition, a few people got bonus points for especially innovative explanations of part 1 – based on the article Arithmetic Identity on page 193 of the Algebraic Thinking text. The principal errors were omitting even a method for solving the quadratic or writing the nonsense line $-9 \qquad -9$ in representing the operation: subtract 9 from each side of the occasion.

Only a few of you seemed to grasp the moral. Many teachers (and books) emphasize the mantra: get x by itself. More precisely, they emphasize the procedure: first subtract the constant term then divide by the coefficient of x. This is a correct procedure to solve $ax + b = c$. But students over generalize it; this over generalization interferes with the solution of problems such as 2 and 3.

So this mantra is unfortunate. It is not as bad as the primary teacher saying 'you can't subtract a bigger number from a smaller' but it is of the same ilk. (Look up ilk if you don't know the meaning.)

Anyone who trouble distributing radicals or multiplying expressions with irrational coefficients should see me if the problem in conceptual or practice if the problem is just lack of fluency.

Those who got below 10 can get up to 10 points by correcting and explaining their mistakes and explaining the following conundrum.

Why do we write:

$$x^2 = 7$$
$$x = \pm\sqrt{7}$$

instead of

$$x^2 = 7$$
$$\pm x = \pm\sqrt{7}?$$

After all, there are two square roots of x^2.