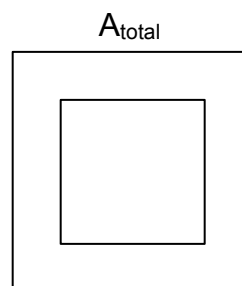
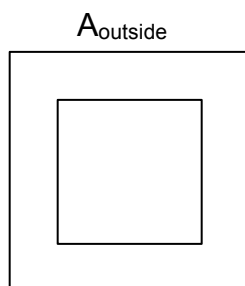
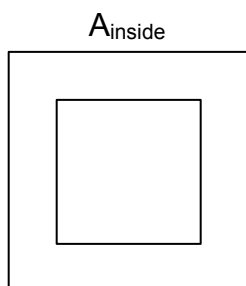


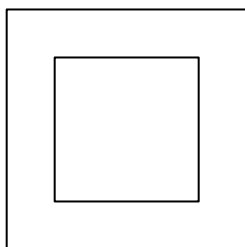
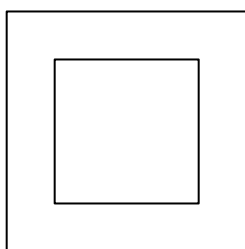
Applications of Quadratic Relations – Day 2

Steps to Solving Box in a Box Questions

- Draw a diagram and label all given information. Write a let statement to define your variable.
- Determine the values of the inside area (A_i) and total area (A_T)
- Write an area equation to solve for x using A_i or A_T .
- Expand and simplify the equation into standard form ($ax^2 + bx + c = 0$).
- Solve the equation (by factoring or quadratic formula).
- Write a concluding statement that answers the initial problem.



Examples



Example 1 - A photograph measuring 16 cm by 22 cm is to be surrounded by a matte before framing. The matte is to be of uniform width around the photograph. The area of the matte is equal to the area of the photograph. Find the uniform width of the matte.

Example 2 – A matte of uniform width is to be placed around a painting so that the area of the matted surface is twice the area of the picture. If the outside dimensions of the matte are 40 cm by 60 cm, find the width of the matte.

Example 3 - A rectangular skating rink measures 40 m by 20 m. It is to be doubled in area by extending each side by the same amount. Determine the dimensions of the new skating rink.

Homework – Complete questions #18, 19, and 22 on page 312 and question #15 on page 302.