## Learning Goal 5.3: Practice

1. A flag is 20 inches wide and 14 inches long. A company wants to DOUBLE the area of the table by increasing the length and width by the same amount.
a) Write an equation that could be used to find the length and width of the new table:
b) Solve the equation:
c) State how much the length and width of table should be increased by:
2. The diagonal of a window measures 25 cm . The length of the window is 3 less than the width.
a) Write an equation that could be used to find the length and width of the window:
b) Solve the equation:
c) State the length and width of the window:
3. A rocket is launched upwards from the top of a building. Its height off the ground is given by the equation:

$$
h(t)=-16 t^{2}+32 t+200
$$

where t is time in seconds.
a) What is the initial height of the rocket?
b) Find the time that the rocket will hit the ground to the nearest tenth.
c) Find the time interval where the rocket will be above 210 feet to the nearest tenth.
d) How many seconds to the nearest tenth will it take for the rocket to reach its highest point?

