

MATH 10  
Word Problem Assignment  
Super Seven

Use let statements and draw a diagram to help you answer some of these.

1. Five times the square of an integer is 980. Find the integer. Use both factoring and the quadratic formula.
2. Little Alex was so frustrated with the silly errors he made on his math test that he crumpled it up and threw it at little Joel (by the way it missed and harmlessly hit the ground). The flight path/function of the thrown test can be modeled by  $h = -5t^2 + 18t$ . Using the quadratic formula determine to the nearest tenth of a second the total length of time the test remained in the air before it first hit the ground.
3. The length and width of a rectangle are 20 m and 13 m. When each dimension is increased by the same amount the area is doubled. Determine the new dimensions to the nearest tenth of a metre. Use the quadratic formula to determine your answer.
4. The product of two consecutive even numbers is 288. What are the numbers? Use factoring to determine the answer. Use the quadratic formula to check your answer.
5. Mr. T upon getting his Math class to perform, is showered with money (and adulation). One of his first purchases is a gaudy rug for the Student Lounge. The rug has a central area made up of a trampled Leaf emblem measuring 8m by 9m. This is surrounded by a "Go Canucks Go" border of uniform width. If the whole rug has an area of  $306\text{m}^2$ , how wide is the border? Use the method of your choice to determine the answer.
6. The hypotenuse of a right angle triangle measures 30 cm. The sum of the lengths of the other two sides is 42 cm. Find the lengths of the other two sides. Use the quadratic formula to determine the answer.
7. Christiane the photographer has a photograph 20 cm by 15 cm that she is going to crop. The same amount was cropped from its length and its width. The new area of the photo has been reduced by  $99\text{cm}^2$ . What are the new dimensions of the photograph to the nearest tenth of a centimetre. Use the method of your choice to solve.