

Math 130

1.2 – Applications and Modeling with Linear Equations

Example 1 - The length of a rectangle is 2 in. more than the width. If the length and width are each increased by 3 in., the perimeter of the new rectangle will be 4 in. less than 8 times the width of the original rectangle. Find the dimensions of the original rectangle.

Example 2 – You drive from your home to Mt. SAC for your Math 130 class on a Monday, averaging 35 mph. Driving back at 9pm, there is little traffic, and you average 70 mph with a driving time of 1 hour less. What is the distance from your home to Mt. SAC? [Recall: $d=rt$]

Example 3 – How many liters of a 25% antifreeze solution should be added to 5 L of a 10% solution to obtain a 15% solution?

Example 4 – Last year, you earned a total of \$560 in interest from two investments. You invested a total of \$10,000, part of it at 5% and the rest at 6%. How much did you invest at each rate?

Example 5 – The relationship between Celsius and Fahrenheit can be given by the linear equation $C = \frac{5}{9}F - \frac{160}{9}$. What is 10°C in Fahrenheit?