

Math 165/166
Lab 5, Feb 11
Linear equations and its applications

Name:
Box Number:

1. Find the solution to the equations given below. Check your answers!

(a) $2(1 - 2x) - 4(x + 3) = 5(1 - x)$

(b) $\frac{3x - 5}{1 - 2x} = \frac{2}{3}$

(c) $\frac{3}{x - 2} + \frac{4}{x + 2} = \frac{1}{x^2 - 4}$

2. A rectangular field is to be enclosed with a fence 180 feet long. The length of the field is 10 feet more than the width. Find the length and the width of the field.

3. A person invests \$13,000 into two accounts paying 10.5% and 7% per year, respectively. After one year, the part invested at 10.5% earned \$490 more than the part invested at 7%. How much money was invested into each type of account?

4. It takes 4 hours for a bush pilot in Australia to pick up mail at a remote village and return to home base. If the average speed going is 150 mph and the average speed returning is 100 mph, how far from the home base is the village?

5. Copying machines A and B, working together, can prepare enough copies of the animal report for the board of directions in 2 hours. Machine A, working alone, would require 3 hours to do the job. How long would it take machine B to do the job by itself?

Answer:

1. (a) $x = -5$ (b) $x = \frac{17}{13}$ (c) $x = \frac{3}{7}$

2. Width 40ft, Length: 50ft

3. Amount in 10.5%: \$8,000, Amount in 7%: \$5,000

4. 240 miles

5. 6 hours