

Mixture homework Day 1

1) Four less than three times a number is three more than two times the number. What is the number?

2) Write this equation as a sentence... Then solve it.

Three times a number equals 40 more than five times the number. What is the number?

3) Fourteen less than three times a number equals the number. What is the number?

4. A passenger plane made a trip to Las Vegas and back. On the trip there it flew 432 mph and on the return trip it went 480 mph. How long did the trip there take if the return trip took nine hours?

5. If a person invests \$500 at 4% simple interest for 2 years, how much interest is earned?

Mixture homework Day 2

6. You want to sell a piece of property for \$240,000. You want the money to be paid off in two ways - a short term note at 6% interest and a long-term note at 5%. Find the total amount of each note if the total annual interest paid is \$13,000.

7. On a vacation, Briana averaged 60 mph traveling from Omaha to Austin. Returning by a different route that covered the same number of miles, she averaged 55 mph. What is the distance between the two cities if her total traveling time was 30 hours?

8. Two planes leave Los Angeles at the same time. One heads south to San Diego, while the other heads north to San Francisco. The San Diego plane flies 50 mph slower than the San Francisco plane. In a half hour, the planes are 275 miles apart. What are their speeds?

9. How many gallons of a 5% acid solution must be mixed with 5 gallons of a 10% solution to obtain a 7% solution?

percent x liters of solution = liters of pure acid

10. Money and Mixture Problems:
Jerry invested \$8000, part at 7% simple interest and the rest at 5% simple interest for a period of 1 year. If he received a total annual interest of \$485 from both investments, how much did he invest at each rate?

$t = 1 \text{ yr}$

Money and Mixture Problems:

Jerry invested \$7000, part at 8% simple interest and the rest at 5% simple interest for a period of 1 year. If he received a total annual interest of \$476 from both investments, how much did he invest at each rate?

2) Assign Variables

LET $x = \text{AMT INVESTED AT } 8\%$
~~LET $y = \text{AMT INVESTED AT } 5\%$~~

	I	$=$	$P \cdot r \cdot t$
AMT AT 8%	$.08x$	$=$	$x \cdot .08 \cdot 1$
AMT AT 5%	$.05(7000-x)$	$=$	$(7000-x) \cdot .05 \cdot 1$

3) Write an equation

476

4) Solve the equation

$$.08x + .05(7000-x) = 476$$

$$.08x + 350 - .05x = 476$$

$$.03x + 350 = 476$$

$$-350 \quad -350$$

$$.03x = 126$$

$$\frac{.03x}{.03} = \frac{126}{.03}$$

5) Answer the question

$x = 4,200.00$
 INVESTED \$4,200 AT 8%.
 INVESTED 2800 AT 5%.