Applications of Linear Systems: Percent/Mixture Problems (Chapter 1)

Assigned Work:

- p. 27 # 7
- p. 39 # 11
- p. 55# 10, 12

Feb 16-9:58 AM

Applications of Linear Systems: Percent/Mixture Problems

Feb 22/2016

Assigned Work: p. 27 # 7 p. 39 # 11 p. 55 # 10, 12

1. Percentages can be expressed as a fraction or a decimal.

 $25\% = \frac{25}{100} = 0.25$

- 2. Use the wording of the question to help you choose your unknowns (variables).
- 3. Make sure your units are consistent.

Feb 19-10:00 PM

Copy and try this!

Ex. 2) A chemistry teacher needs to make 10 L of 42% sulphuric acid solution. The acid solutions available are 30% sulphuric acid and 50% sulphuric acid, by volume. How many litres of each solution must be mixed to make the 42% solution?

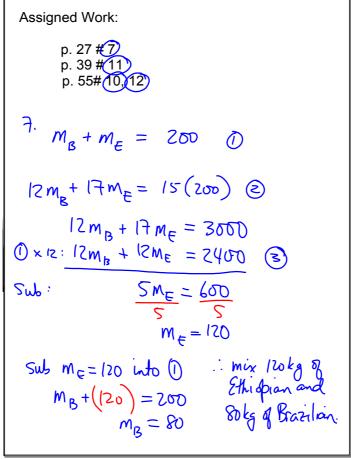
Feb 19-10:00 PM

Try this!

Ex. 3) A candy store is preparing a mixture of chocolate raisins and chocolate peanuts. The raisins sell for \$2.22/kg and the peanuts for \$1.75/kg. How much of each type must be mixed to make 20 kg of a mixture that will sell for \$41?

$$M_1 + M_2 = 20 \text{kg}$$
 (1)
where M_1 is mass of raisins
 M_2 is mass of peanuts
 $2.22 M_1 + 1.75 M_2 = 41$ (2)

Feb 16-9:03 AM



Feb 17 - 9:56 AM

p. 39 # 11.

Let
$$m_1$$
 rep. 80% silver, m_2 is 66% silver

 $M_1 + M_2 = 30$

0.80 $m_1 + 0.66$ $m_2 = 0.70$ (30)

2 pure silver

0.80 $m_1 + 0.66$ $m_2 = 21$

80 $m_1 + 66$ $m_2 = 2100$

($= 27$

40 $m_1 + 33$ $m_2 = 1050$

3 ($= 27$)

40 $m_1 + 40$ $m_2 = 1200$

Sub:

 $\frac{1}{2}$
 $\frac{1}$
 $\frac{1}{2}$
 $\frac{1}{2}$
 $\frac{1}$
 $\frac{1}{2}$
 $\frac{1}$
 $\frac{1}{2}$

Feb 23-2:10 PM

$$p 55 # p$$
.

 $m_1 + m_2 = 500$ (1)

 $971. 701. 86\%$.

 $0.99m_1 + 0.70m_2 = 0.86(500)$ ©

 $0.99m_1 + 0.70m_2 = 430$
 $99m_1 + 70m_2 = 4300$

$$p 55 \# 12.$$
 $m_1 \text{ aranges}, m_2 \text{ tomatoes}$
 $0.26 \text{ M}_1 + 0.13 \text{ m}_2 = 13 \text{ O} \text{ (vit C)}$

Feb 23-2:28 PM