Group Work 2.7
6-25-12

Group Members

NOTE: These questions are borrowed from Beginning Algebra by Elayn Martin-Gay

1. Find the following quantities:
   (a) Find 16% of 70  \[ 11.2 \]
   (b) Find 88% of 1000  \[ 880 \]
   (c) 87 is what percent of 436?  \[ 19.95\% \]
   (d) 126 is 35% of what number?  \[ 360 \]
   (e) 45 is 25% of what number?  \[ 180 \]

2. An automobile dealership recently reduced the price of a used compact car by 8%. If the price of the car before the discount was $18,500, find the discount and the new price.

   Discount  $1,480
   New Price  $17,020

3. A music store is having a 25% off sale on all new albums. Find the discount and sale price if a newly released album costs $16.

   Discount  $4
   Sale Price  $12

4. Consider two right triangles: Triangle A has legs of length 3 and 4. Triangle B has legs of length 6 and 8. So we see that B is obtained from A by doubling the leg length. By what percent did we increase the leg length to obtain B? By what percent does the area of A increase when we double the leg lengths?

   SKIP

5. How much of an alloy that is 20% copper should be mixed with 200 oz. of an alloy that is 50% copper in order to get an alloy that is 30% copper?

   \[
   \begin{array}{ccc}
   \text{Amount} & \% \text{Copper} & \text{Amount of Copper} \\
   \hline
   x & .20 & .20x \\
   200 & .50 & 100 \\
   200 + x & .30 & 30(200 + x) \\
   \end{array}
   \]

   \[.20x + 100 = .30(200 + x)\]

   \[x = 400 \text{ oz}\]

6. How much water should be added to 30 gallons of a solution that is 70% antifreeze in order to get a mixture that is 60% antifreeze?

   \[
   \begin{array}{ccc}
   \text{Amount} & \% \text{Antifreeze} & \text{Amount of Antifreeze} \\
   \hline
   \text{Water:} & x & .00 \\
   30 & .70 & 21 \\
   30 + x & .60 & .60(30 + x) \\
   \end{array}
   \]

   \[0 + 21 = .60(30 + x)\]

   \[x = 5 \text{ gallons}\]