Name: _____ Date: _____

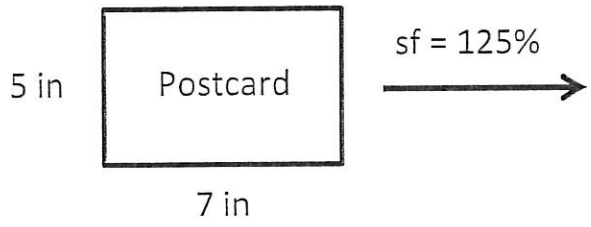
4. A printing company is enlarging the image on a postcard to make a greeting card. The enlargement of the postcard's rectangular image is done using a scale factor of 125%. Be sure to show all other related math work used to answer the following questions.

   a. Represent a scale factor of 125% as a fraction and decimal.

   Decimal: 1.25

   Fraction: 125/100 or 1 1/4 (will also accept other equivalent fractions)

   b. The postcard's dimensions are 7 inches by 5 inches. What are the dimensions of the greeting card?

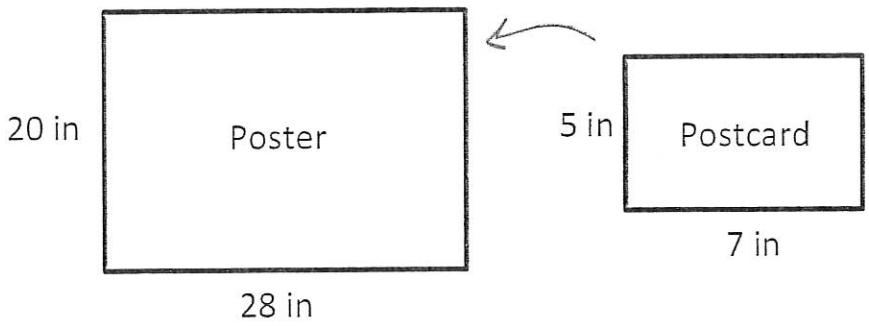


$y = Kx$

H: $y = (1.25)(7) =$ 8.75 in

V: $y = (1.25)(5) =$ 6.25 in

   c. If the printing company makes a poster by enlarging the postcard image, and the poster's dimensions are 28 inches by 20 inches, represent the scale factor as a percent.



$K = y/x = 20/5 = 4 = 400\%$

or $K = 28/7 = 4 = 400\%$

The scale factor is 400 %

Name: _____ Date: _____

PART TWO: CALCULATOR INACTIVE

You will now complete the remainder of the study guide without the use of a calculator.

5. A $100 MP3 player is marked up by 10% and then marked down by 10%. What is the final price? Explain your answer.

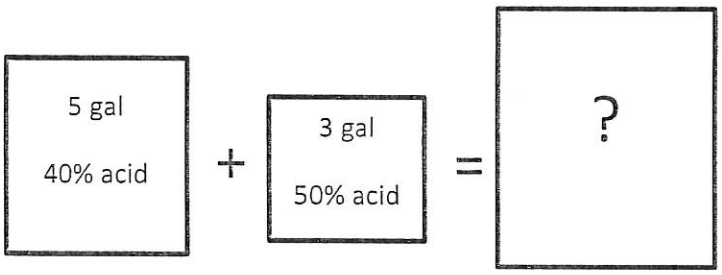
Markup	Markdown
Selling price = (1+m) whole = (1+0.1)(100) = 1.1(100) = $110	Selling price = (1-m) whole = (1-0.1)(110) = (0.9)(110) = $99

The final price is $99.

100 × 1.1 = 100 + 100 = 110.0

110 × 0.9 = 990 − 000 = 99.0

6. A 5-gallon mixture contains 40% acid. A 3-gallon mixture contains 50% acid. What percent acid is obtained by putting the two mixtures together? Show your work.



Part + Part = Whole Quantity

$0.4(5) + (0.5)(3) = x(8)$

$2 + 1.5 = 8x$ ← 5+3

$\frac{3.5}{8} = \frac{8x}{8}$

$0.4375 = x$

The resulting mixture will be 43.75 % acid.

.4375
8 | 3.5000
-32
30
-24
60
-56
40

See reverse for #7

Name: _____ Date: _____

7. In Mr. Johnson's third and fourth period classes, 30% of the students scored an 'A' on a quiz. Let n be the total number of students in Mr. Johnson's classes. Answer the following questions, and show your work to support your answers.

   a. If 15 students scored an 'A', write an equation involving n that relates the number of students who scored an 'A' to the total number of students in Mr. Johnson's third and fourth period classes.

   $0.3n = 15$

   b. Solve your equation in part (a) to find how many students are in Mr. Johnson's third and fourth period classes.

   $\frac{0.3n}{0.3} = \frac{15}{0.3}$

   $n = 50$

$$
\begin{array}{r}
50 \\
0.3\overline{)15.0} \\
-15 \\
\hline
00 \\
-0 \\
\hline
0
\end{array}
$$

There are 50 students in Mr. Johnson's third and fourth period classes.