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Quiz 4A, MTH 2010 - No Calculators

Dr. Graham-Squire, Spring 2015

⇒ 4-5 minutes

so give 20 min

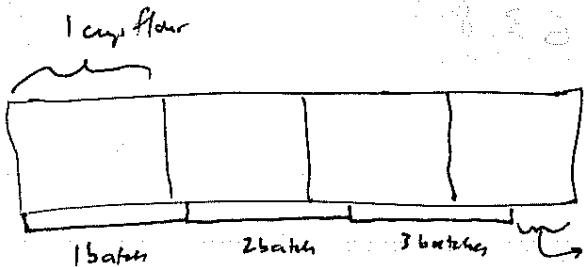
Name: _____

Key

1. (2 points) You need $1\frac{1}{6}$ cups of flour to make a batch of crepes. How many batches of crepes can you make if you want to use up 4 cups of flour (assuming you have ample amounts of the other ingredients, and that you can make fractional amounts of a batch)? Explain your work! A diagram might help.

You can make $4 \div 1\frac{1}{6}$ batches

$$4 \div 1\frac{1}{6} = 4 \div \frac{7}{6} = \frac{4 \cdot 6}{7} = \frac{24}{7} = 3\frac{3}{7} \text{ of a batch}$$



$\frac{1}{2}$ cup left, makes $\frac{(\frac{1}{2})}{(1\frac{1}{6})}$ batches

$$= \frac{1}{2} \div \frac{7}{6} = \frac{1}{2} \cdot \frac{6}{7} = \frac{3}{7} \text{ of a batch}$$

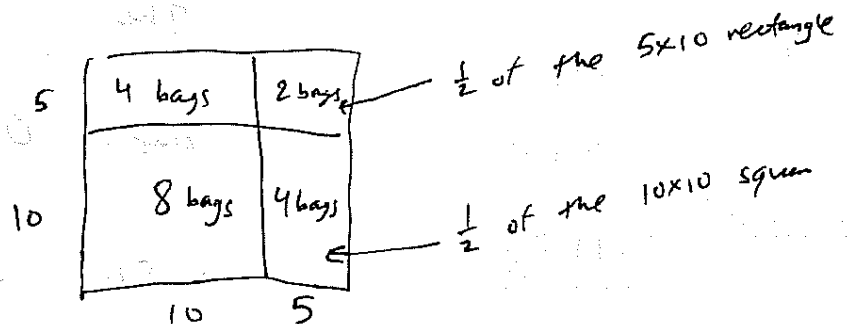
2. (3 points) Eddie has a ten foot by ten foot square garden plot, and he needs 8 bags of compost to spread a one-inch thick layer of compost over the whole plot. He also has another garden plot that is 15 feet by 15 feet. How many bags of compost will he need if he wants to spread a one-inch layer of compost on the 15x15 plot? Show your work!

(A) 4

(B) 12

(C) 18

(D) 120



$$\text{Total} = 8 + 4 + 4 + 2 = 18 \text{ bags}$$

3. (2 points) A student is having trouble with decimal division, in particular they are trying to figure out how to do

$$606.74 \div 2.3$$

The student can calculate that $60674 \div 23 = 2638$, though. Explain to the student how they can use their calculation, and estimation of the original numbers, to figure out where the correct place is to put the decimal.

$$\left. \begin{array}{l} 606.74 \approx 600 \\ 2.3 \approx 2 \end{array} \right\} \Rightarrow 606.74 \div 2.3 \approx 600 \div 2 = 300$$

2638

or 263.8

or 26.38

or 2.638

So the decimal should go between the 3 and 8 to make 263.8

4. (3 points) The price of a camera was first increased by \$17, and then decreased by 38%. If the final price of the camera was y , what was the original price in dollars? Show your work!

(A) $\frac{y}{0.62} - 17$

(B) $0.62(y + 17)$

(C) $17 + 1.38y$

(D) $0.38(y + 17)$

(E) $\frac{y - 17}{0.38}$

Let x = original price.

Then $x + 17$ = price after first increase

and $0.62(x + 17)$ = price after decrease by 38% (same as 62% of)

So $0.62(x + 17) = y$

$$\Rightarrow x + 17 = \frac{y}{0.62}$$

$$x = \frac{y}{0.62} - 17$$

or do this: Suppose $x = \$83$.

Then add \$17 to get \$100

$$38\% \text{ of } \$100 = \$38 \text{ and } 100 - 38 = 62 = y$$

Now check the answers above to see which fits $x = 83$