

Minitest 1A - MTH 2010

Dr. Graham-Squire, Spring 2015

8:49

8:58

$\frac{8:58}{8:49} = 9 \Rightarrow 30 \text{ min}$

Name: Key

I pledge that I have neither given nor received any unauthorized assistance on this exam.

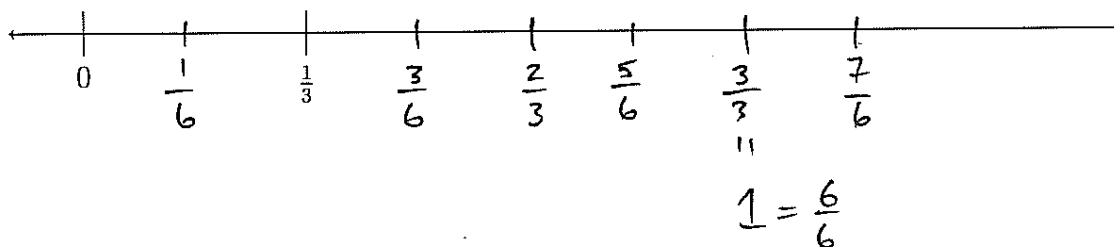
(signature)

DIRECTIONS

1. Show all of your work and use correct notation, even on multiple choice questions! A correct answer with insufficient work or incorrect notation will lose points.
2. Clearly indicate your answer by putting a box around it.
3. Calculators, cell phones and computers are not allowed on this test.
4. Make sure you sign the pledge.
5. Number of questions = 6. Total Points = 30.

1. (5 points)

- (a) (2 points) Plot the fraction $\frac{7}{6}$ on the number line below. Your plot does not have to be exactly precise, but you should use the distances already given to place it as accurately as possible.



- (b) (1 point) A scientific study states that 143,000 people in the US have cats named "Toonces." Does this mean that there are exactly 143,000 people with such cats? If not, what would you guess is an appropriate range for the number of people in the US who have cats names Toonces (assuming the study is correct)?

No, there are not exactly 143,000. It is most likely between 142,500 and 143,499, as both of those round to 143,000.

- (c) (2 points) Order the numbers from least to greatest (or put = if you think two of the numbers are equal): 5.007, -7.07, -7.7, and 5.01

-7.7, -7.07, 5.007, 5.01

2. (5 points) Which of the following is the farthest from 1? Explain/show your work!

(A) $\frac{7}{8} \rightarrow \frac{1}{8}$ from 1

(B) $1.12 \rightarrow \frac{12}{100} = \frac{6}{50} = \frac{3}{25}$ from one

(C) $\frac{81}{100} \rightarrow \frac{19}{100}$

(it is correct

(D) $\frac{7}{6} \rightarrow \frac{1}{6}$ from one

$\frac{1}{6}$ farther than $\frac{1}{8}$

$\frac{19}{100}$ farther than $\frac{12}{100}$

$\frac{1}{6} = \frac{16}{96} = \frac{17}{102}$

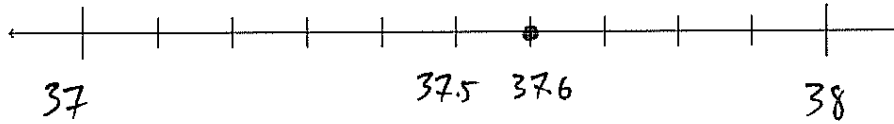
$\frac{17}{102} < \frac{19}{100}$

(smaller pieces and less parts)

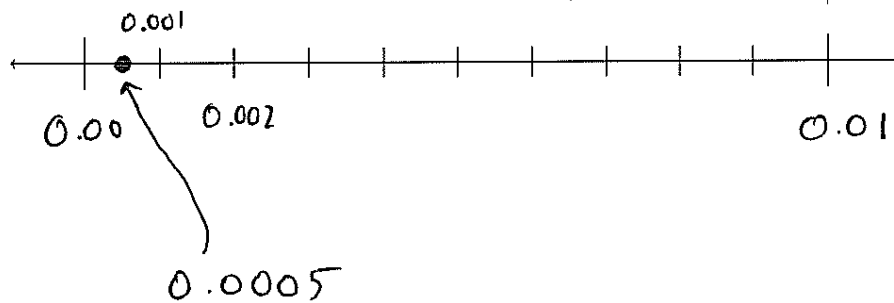
$\Rightarrow \frac{81}{100}$ is furthest

3. (5 points) Label the tick marks on the following number lines so that the tick marks fit with the structure of the decimal system and the instructions given, then appropriately plot the number given. The number need not land on a tick mark.

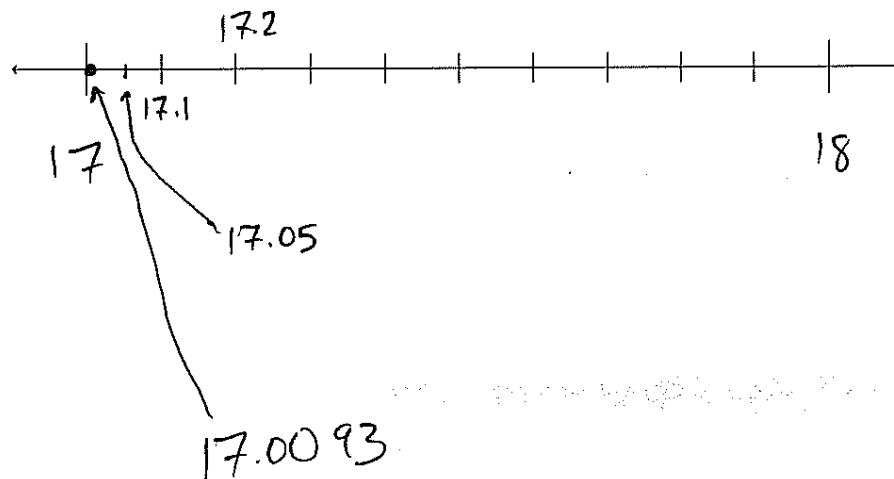
(a) Plot 37.6 where the long ticks are whole numbers and the short ticks are tenths



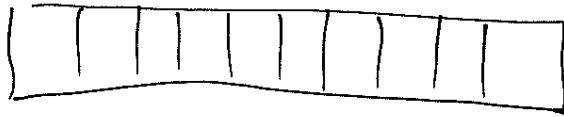
(b) Plot 0.0005 where the long ticks are hundredths and the short ticks are thousandths



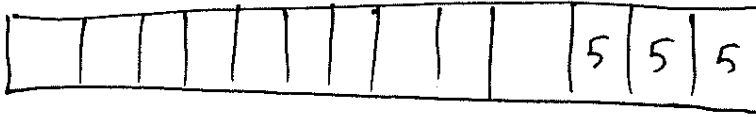
(c) Plot 17.0093 where the long ticks are whole numbers and the short ticks are tenths



4. (5 points) Adam is making some treats for his students. First he makes some cupcakes, then he makes 30% more cookies than the number of cupcakes he has. If he makes 15 more cookies than cupcakes, how many total treats does he make for his students? Use a math drawing or a percent table as part of your explanation.



← cupcakes

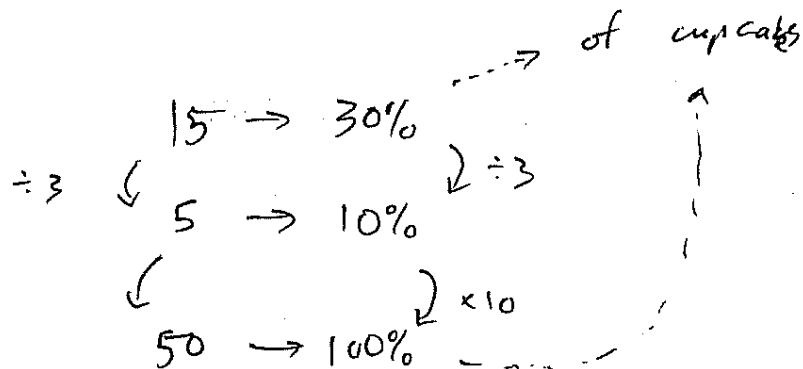


← cookies

15 ⇒ each box = 5

23 total boxes of 5 each = $5 \times 23 =$ 115
treats

or



⇒ There are 50 cupcakes, 15 more cookies ⇒ 65 cookies.

Total is $50 + 65 =$ 115

5. (5 points) Which of the lists below is in order from least to greatest value? Explain your reasoning and/or show your work!

(A) $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$ No, $\frac{1}{2} > \frac{1}{3}$

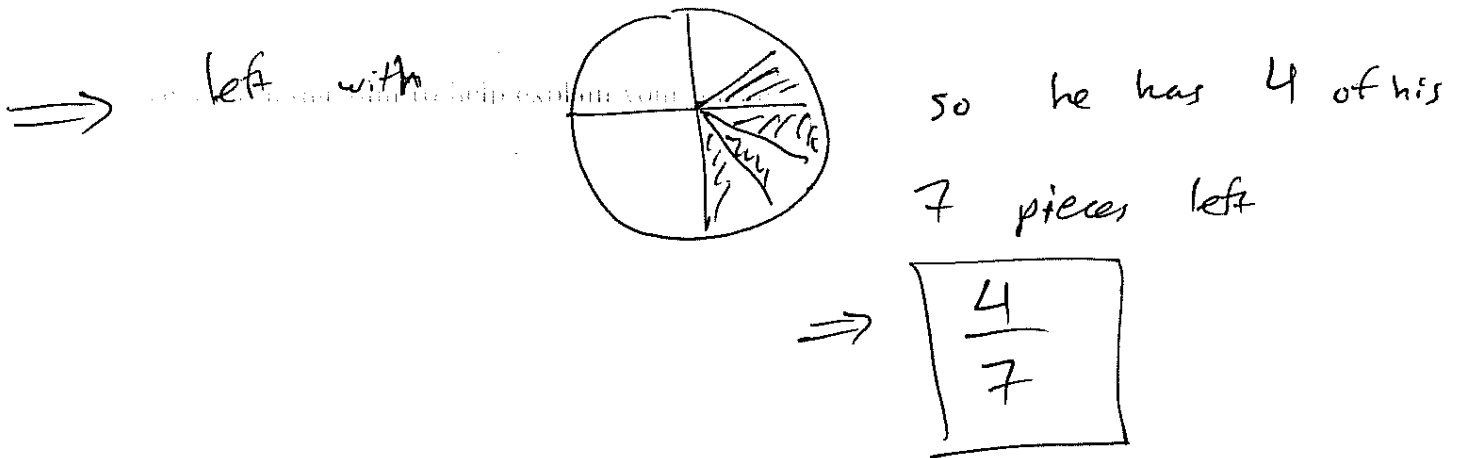
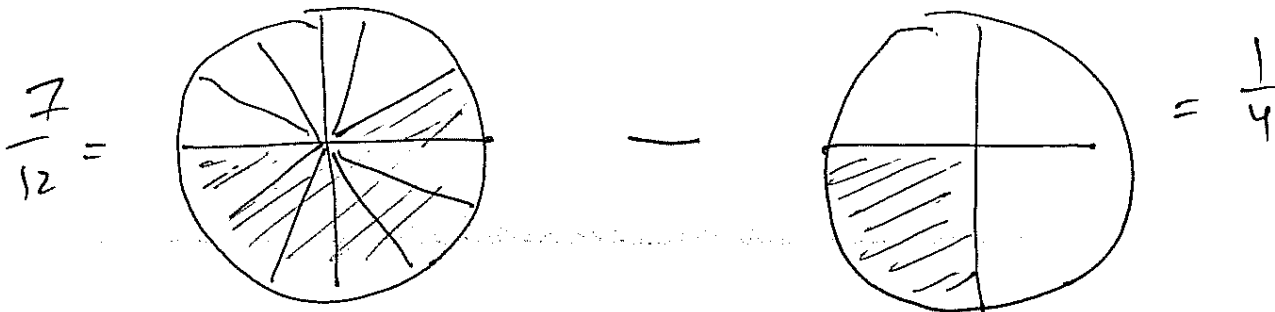
(B) $\frac{1}{3}, \frac{2}{7}, \frac{3}{8}, \frac{4}{11}$ No, $\frac{1}{3} = \frac{2}{6} > \frac{2}{7}$

(C) $\frac{1}{4}, \frac{2}{5}, \frac{2}{3}, \frac{4}{5}$

Yes

(D) $\frac{7}{8}, \frac{6}{7}, \frac{5}{6}, \frac{4}{5}$ No, $\frac{7}{8} > \frac{6}{7}$

6. (5 points) Jim orders a pizza on Monday and eats some of it. On Tuesday, he has $\frac{7}{12}$ of a whole pizza left. He gives $\frac{1}{4}$ of a whole pizza to Ellie. What fraction of the pizza that Jim started with on Tuesday did he have left after he gave the portion to Ellie? Use a math diagram to help explain your answer.



Extra Credit(1 point) Two dogs are next to each other. For one dog, $\frac{1}{7}$ of its fur is black, the other one has $\frac{3}{7}$ of its fur that is black. Billy says that this means that, for the two dogs together, $\frac{4}{7}$ of the total hair is black because you should add them. Jenny says that for the two dogs together, $\frac{2}{7}$ of the hair is black because you should take the average. Is either of them correct? If so, who is right and what is wrong with the other person's reasoning?

Neither of them is correct. Billy is wrong because he is changing wholes. Jenny is wrong b/c you don't know that the two dogs are the same size and/or have same amount of fur.