

Santa Ana Math Club
December 11th, 2010

Name:

School:

Grade:

1. Which number is the largest? 1.513, 1.524, 1.506, 1.507
2. Last weekend, I watched three science fiction movies, four mystery movies, and one adventure movie. What is the fraction of the movies I watched over the weekend were science fiction?
If you want to, use the bar below to help you with the problem.

3. Which number is largest? $\frac{1}{3}$, $\frac{1}{2}$, $\frac{1}{6}$, $\frac{1}{5}$,
4. Which number is largest? 0.100, 0.1, 0.10000000, 0.100000001
5. Which number is smallest? 0.00099999, 0.10191, 0.0000000001111119292929
6. The product of $\frac{1}{3}$ and $\frac{2}{3}$ is?
7. The product of $\frac{1}{4}$, $\frac{1}{4}$, and 16 is?
8. What is the **reciprocal** of each of these numbers:
- a) 4 b) 3 c) 1 d) -1 e) $\frac{3}{7}$

VOCAB:

RECIPROCAL the number that you multiply to a number to get a product of 1.

Example: $\frac{1}{2} \times 2 = 1$

Practical definition: the number flipped upside down

$$\text{Reciprocal} = \frac{1}{\text{number}}$$

$$\text{Example 2: } \frac{2}{3} \times \frac{3}{2} = 1$$

Santa Ana Math Club

December 11th, 2010

Name:

School:

Grade:

9. I have \$0.20 in nickels and \$0.90 in dimes. How many coins do I have total?
10. The sum of $\frac{1}{3}$ and $\frac{1}{2}$ is half of the fraction I am thinking of. What is the fraction? Give the answer as an improper fraction in its simplest form.
11. This morning, my sister and I got 10 dollars. I got half of the total money and my sister took the rest. I spent $\frac{1}{5}$ of the money by the end of the day. How much money do I have remaining now?
12. I got 10 dollars in the morning. I spent \$2.50. I then spent \$1.05. a) How much money did I spend?
b) How much money do I have left?
13. My sister is a triathlete. She competes in the triathlon, which consists of bicycling, running, and swimming. **(Note: In case you don't know this, you should because this frequently pops up on tests so do not be confused)**
- a) The entire race is 15 kilometers. If each part is equal in length, then how far did she swim?
- b) The entire race is 21 kilometers. She ran $\frac{1}{3}$ of the race. How far did she run?
- c) The entire race is 24 kilometers. She ran $\frac{1}{3}$ of the race, and swam $\frac{1}{4}$. The rest she biked. How far did she bike?
- d) The entire race is 36 kilometers. She ran one-fourth of the race. The remaining length of the race was split into thirds. One-third was swimming while two-thirds was running. How far did she swim?

Santa Ana Math Club

December 11th, 2010

Name:

School:

Grade:

14. Of the people in my homeroom, twenty people take Spanish. Of these twenty people, only 8 can speak no languages other than Spanish and English while the others can speak at least three languages. The remaining ten people in my homeroom do not take any language at school and can only speak English. What fraction of people in my homeroom speak more than two languages?
15. There are fifteen boys in a classroom. $\frac{2}{3}$ said that they like to play basketball. $\frac{5}{6}$ of the girls said that they like to play basketball. The same number of girls and boys said that they like to play basketball. How many girls are there in the class?
16. At a picnic, half of the guests were men and the other half were women. $\frac{2}{3}$ of the men brought food, while $\frac{1}{2}$ of the women did. What fraction of people did not bring food.
17. You have to read a list of books by the end of six months. You decide to read $\frac{1}{6}$ of the books the first month. The next month, you read $\frac{1}{5}$ of the remaining books. The following month you read $\frac{1}{4}$ of the remaining books, and so on. The sixth month, you read 3 books. How many books did you start?
18. Convert the following decimals to simplified fractions or fractions to decimals:

Note: Sometimes it might help to reduce.

(This is an even better hint: try to make a fraction $n/100$ to get it to decimals without a calculator)

You're welcome :)

- a) $1/4$ b) $0.33\overline{3}$ c) 0.4 d) $22/25$ e) $3/7$
- a) $39/78$ b) $4/11$ c) $4/9$ d) $3/9$ e) $27/30$
- a) $3/12$ b) $39/50$ c) $17/25$ d) $16.5/33$ e) $47/188$

Santa Ana Math Club

December 11th, 2010

Name:

School:

Grade:

19. $\frac{2}{3}$ of $\frac{3}{4}$ of $\frac{4}{5}$ of $\frac{5}{6}$ of $\frac{1}{5}$ is what?

20. **Challenge:** In a school, half of the teachers are men and the other half are women. Two-thirds of the men are married, while three-fifths of the women are. What fraction of the teachers in the school are married?

21. **Challenge:** The price of a coat has been reduced 20%. For today's sale, we only pay 75% of the reduced price.

a) What percentage of the original price does it now sell for?

b) If the price was originally 100 dollars, what does it sell for now?

c) If the price is 90 dollars now, what was the original cost?

d) Create a situation of two or more price reductions that would lead to the percentage in part a. If you have time, make samples with even more price reductions that equal the percentage in sample a. Or, create a percentage and try to create a problem like number 21 that reaches that percentage.