

Thursday Quiz on HW 2

Homework Answers on my website.



Three students invented a game in which they flip coins for one minute and then determine who flipped the highest percentage of heads. After their first round, each of them thinks that he or she was the winner of the game. Here is what they reported:

- "I think I won," said Maria, "Of my flips, $\frac{12}{25}$ were heads."
- Autymn said, "I flipped my coin 40 times and had a total of 18 heads. Since both of my numbers are larger than yours, I must have won."
- Kumar reported, "I recorded 44% of my flips as heads."

Help the students determine their percentage of heads. Justify your answer.

$$\begin{array}{r} \text{Maria} \\ \frac{12}{25} \cdot \frac{4}{4} = \frac{48}{100} \\ \text{48\%} \\ \text{winner} \end{array}$$

$$\begin{array}{r} \text{Autymn} \\ \frac{18}{40} \div \frac{2}{2} = \frac{9}{20} \cdot \frac{5}{5} = \frac{45}{100} \\ \text{45\%} \end{array}$$

$$\begin{array}{r} \text{Kumar} \\ 44\% \end{array}$$

$$\frac{18}{40} \div \frac{2}{2} = \frac{9}{20} \cdot \frac{5}{5} = \frac{45}{100}$$

~~$$\frac{2}{3} + \frac{1}{4} = \frac{2}{3}$$~~

Think of your favorite number.

Multiply your favorite number by 1

You get your favorite number!

Add 1 to your favorite number

You don't get your favorite number!

Subtract 1 from your favorite number

You don't get your favorite number!

Divide your favorite number by 1

You get your favorite number!

You can multiply or divide any fraction by 1, to make equivalent fractions.

$$\frac{9}{30} \div \boxed{\frac{3}{3}} = \frac{3}{10}$$

equivalent

$$\frac{2}{5} \cdot \boxed{\frac{7}{7}} = \frac{14}{35}$$

equivalent

But you can't add or subtract 1 and get equivalent fractions.

$$\frac{1}{2} + \boxed{\frac{2}{2}} \neq \frac{3}{4}$$

not equivalent

$$\frac{4}{5} - \boxed{\frac{3}{3}} = \frac{1}{2}$$

not equivalent

Which is greater? $\frac{2}{5}$ or $\frac{3}{7}$?

Handwritten work showing the comparison of $\frac{2}{5}$ and $\frac{3}{7}$ by finding a common denominator of 35.

For $\frac{2}{5}$: $\frac{2}{5} \times \frac{7}{7} = \frac{14}{35}$

For $\frac{3}{7}$: $\frac{3}{7} \times \frac{5}{5} = \frac{15}{35}$

The fraction $\frac{3}{7}$ is circled in red, and the word "bigger" is written in red below it, indicating that $\frac{3}{7}$ is greater than $\frac{2}{5}$.