

Center Activity Answer Key

Activity 5.55

Fraction Addition: True or False!

★ Check Understanding

False; Possible explanation:
You cannot find the sum of two fractions by adding numerators and adding denominators.

Activity Notes

Students will practice adding fractions with different denominators when one denominator is a multiple of the other. Students should understand that to add two fractions, the fractions must be written with a common denominator. They should recognize that the equations in which the denominator of the sum is equal to the sum of the two denominators are false.

★★ Check Understanding

False; Possible explanation:
You cannot find the sum of two fractions by adding numerators and adding denominators.

Activity Notes

Students will practice adding fractions with different denominators. Students should understand that to add two fractions, the fractions must be written with a common denominator. They should recognize that the equations in which the denominator of the sum is equal to the sum of the two denominators are false.

★★★ Check Understanding

False; Possible explanation:
A correct denominator was found to add sixths and eighths, but the numerator of the sum should be $20 + 3$, or 23.

Activity Notes

Students will practice adding fractions and mixed numbers with different denominators. Students should understand that to add two fractions, the fractions must be written with a common denominator. They should recognize that the equations in which the denominator of the sum is equal to the sum of the denominators of the addends are false. They should also recognize when a mixed number with a fractional part greater than 1 is written as an equivalent mixed number with fractional part less than 1.

Center Activity Answer Key

Activity 5.56

Fraction Subtraction: True or False!

★ Check Understanding

False; Possible explanation:
You cannot find the difference of two fractions by subtracting numerators and subtracting denominators.

Activity Notes

Students will practice subtracting fractions with different denominators when one denominator is a multiple of the other. Students should understand that to subtract two fractions, the fractions must be written with a common denominator. They should recognize that the equations in which the denominator of the difference is equal to the difference of the two denominators are false.

★★ Check Understanding

False; Possible explanation:
You cannot find the difference of two fractions by subtracting numerators and subtracting denominators.

Activity Notes

Students will practice subtracting fractions with different denominators. Students should understand that to subtract two fractions, the fractions must be written with a common denominator. They should recognize that the equations in which the denominator of the difference is equal to the difference of the two denominators are false.

★★★ Check Understanding

False; Possible explanation:
A correct denominator was found to subtract sevenths and thirds, but the numerator of the difference should be $15 - 14$, or 1.

Activity Notes

Students will practice subtracting fractions and mixed numbers with different denominators. Students should understand that to subtract two fractions, the fractions must be written with a common denominator.

Some false equations have a difference with a correct common denominator shown but have an incorrect numerator that is equal to the difference of the two numerators.

Other equations in which the denominator of the difference is equal to the difference of the two denominators are also false.

Center Activity Answer Key

Activity 5.23

Estimate Fraction Sums and Differences

★ Check Understanding

$\frac{5}{6} + \frac{1}{9}$: less than 1; Possible explanation: I need $\frac{1}{6}$ to make 1, but $\frac{1}{9}$ is less than $\frac{1}{6}$ so the sum must be less than 1.

$1\frac{2}{3} - \frac{9}{10}$: less than 1; Possible explanation: $\frac{9}{10}$ is very close to 1, so the difference must be close to $\frac{2}{3}$, which is less than 1.

Game Board

Less than 1: $\frac{3}{5} + \frac{7}{10}$, $1\frac{7}{10} - \frac{2}{5}$, $2\frac{1}{2} - 1\frac{1}{3}$

Between $1\frac{1}{2}$ and 2: $1\frac{3}{8} + \frac{1}{4}$, $\frac{7}{8} + \frac{9}{10}$, $2\frac{4}{5} - 1\frac{1}{8}$

Greater than 2: $1\frac{2}{3} + \frac{3}{4}$, $\frac{5}{6} + 1\frac{1}{4}$, $2\frac{5}{6} - \frac{1}{4}$

★★ Check Understanding

$\frac{5}{6} + \frac{1}{5}$: greater than 1; Possible explanation: I need $\frac{1}{6}$ to make 1, and $\frac{1}{5}$ is more than $\frac{1}{6}$ so the sum must be greater than 1.

$1\frac{2}{3} - \frac{9}{10}$: less than 1; Possible explanation: $\frac{9}{10}$ is very close to 1, so the difference must be close to $\frac{2}{3}$, which is less than 1.

Game Board

Less than 1: $\frac{4}{5} + \frac{3}{10}$, $1\frac{1}{9} + \frac{1}{6}$, $3\frac{1}{2} - 2\frac{1}{8}$

$1\frac{3}{5} - \frac{3}{10}$

Between $1\frac{1}{2}$ and 2: $1\frac{1}{6} + \frac{1}{2}$, $1\frac{1}{4} + \frac{5}{12}$, $8\frac{4}{5} - 7\frac{1}{8}$

$2\frac{1}{2} - \frac{5}{6}$

Greater than 2: $1\frac{3}{4} + \frac{5}{8}$, $1\frac{7}{15} + \frac{4}{5}$, $2\frac{7}{8} - \frac{2}{3}$, $5\frac{3}{4} - 3\frac{4}{9}$

★★★ Check Understanding

$1\frac{4}{7} + \frac{5}{21}$: less than 2; Possible explanation: I need $\frac{3}{7}$ to make 2, but $\frac{5}{21}$ is less than $\frac{3}{7}$, so the sum is less than 2.

$2\frac{2}{3} - \frac{9}{10}$: less than 2; Possible explanation: If I subtract more than $\frac{2}{3}$, the difference will be less than 2. Since $\frac{9}{10}$ is greater than $\frac{2}{3}$, the difference will be less than 2.

Game Board

Less than $\frac{1}{2}$: $6\frac{1}{3} - 5\frac{9}{10}$

Between $\frac{1}{2}$ and 1: $2\frac{4}{9} - 1\frac{5}{6}$, $1\frac{3}{5} - \frac{8}{9}$

Between 1 and $1\frac{1}{2}$: $\frac{4}{5} + \frac{3}{7}$, $1\frac{1}{9} + \frac{3}{8}$, $1\frac{5}{6} - \frac{5}{12}$

Between $1\frac{1}{2}$ and 2: $1\frac{3}{8} + \frac{3}{5}$, $8\frac{4}{5} - 7\frac{1}{4}$, $\frac{7}{8} + \frac{5}{6}$

Between 2 and $2\frac{1}{2}$: $1\frac{3}{5} + \frac{8}{9}$, $3\frac{5}{8} - 1\frac{1}{3}$

Greater than $2\frac{1}{2}$: $4\frac{7}{8} - 2\frac{2}{7}$

Center Activity Answer Key

Activity 5.24

Use Fraction Vocabulary

★ Check Understanding

Sample answer: Yes, he is correct. I can use benchmark fractions to estimate the sum. $\frac{9}{10}$ is almost 1. $\frac{3}{5}$ is a little more than $\frac{1}{2}$. To find the exact answer, I would need to rename $\frac{3}{5}$ as an equivalent fraction with a denominator of 10.

Recording Sheet

To add fractions, the fractions must have **like denominators**. The fractions in the problem have **unlike denominators**.

The **least common multiple** of 8 and 16 is **16**. I can use this number as a **common denominator**.

First, I rename $\frac{7}{8}$ as an **equivalent fraction** with a **denominator** of **16**.

$$\frac{7}{8} = \frac{14}{16}$$

Then add the numerators of both fractions in the problem.

$$\frac{14}{16} + \frac{15}{16} = \frac{29}{16}$$

The answer is a fraction greater than 1.

★★ Check Understanding

Sample answer: No, he is not correct. I can use benchmark fractions to estimate the difference. $\frac{9}{10}$ is close to 1 and $\frac{7}{15}$ is about one-half, so I wrote an estimate of $6\frac{1}{2} - 5 = 1\frac{1}{2}$. To find the exact answer, the fractions must have like denominators. The least common multiple of 15 and 10 is 30. To find an exact answer I would first rename both fractions as equivalent fractions with a denominator of 30.

Recording Sheet

To add fractions, they must have **like denominators**. The fractions in the problem have **unlike denominators**. The **least common multiple** of 8 and 16 is **16**, so I can use that number as the **common denominator**.

First, I write $\frac{7}{8}$ as an **equivalent fraction** with a **denominator** of 16.

$$\frac{7}{8} = \frac{14}{16}$$

Then, I add the numerators of both fractions in the problem.

The answer is $\frac{29}{16}$, which is a fraction greater than 1.

★★★ Check Understanding

Sample answer: No, he is not correct. The fraction $\frac{2}{5}$ is a little less than the benchmark fraction $\frac{1}{2}$. $\frac{9}{10}$ is close to the benchmark 1. This gives $6 + 4 + 1\frac{1}{2} = 11\frac{1}{2}$. To find the exact answer I would need to rename $\frac{2}{5}$ as an equivalent fraction with a denominator of 10.

Recording Sheet

To add fractions, they must have **like denominators**. The fractions in the problem have **unlike denominators**. The **least common multiple** of 8 and 16 is **16**, so I will use it as the **common denominator**.

First, I write $\frac{7}{8}$ as an **equivalent fraction** with a **denominator** of 16. $\frac{7}{8} = \frac{14}{16}$

Then, I add the numerators.

$$\frac{14}{16} + \frac{15}{16} = \frac{29}{16}$$

The answer is a fraction greater than 1.