Pre-Algebra Workbook

Mixed numbers

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MIXED NUMBERS AND IMPROPER FRACTIONS

■ 1. Complete the statement.

Improper fractions are fractions where the numerator is _____ than or equal to the denominator.

■ 2. Complete the statement.

All improper fractions represent a fraction with a value greater than _____.

■ 3. Complete the statement.

If we're looking at the fraction $8/3$, imagine taking a circle and dividing it into thirds, there would be _____ of those size pieces to represent this fraction.

■ 4. Mixed numbers are a representation of what operation (addition, subtraction, multiplication, division)?

■ 5. Convert $15/4$ into a mixed number.

- 6. Convert $20/3$ into a mixed number.

- 7. Convert $34/6$ into a mixed number.

- 8. Write $22/7$ as a mixed number.

- 9. Write $135/11$ as a mixed number.

- 10. Write $114/25$ as a mixed number.

- 11. Write the mixed number as an improper fraction.

$$2\frac{2}{5}$$

- 12. Convert the mixed number into an improper fraction.

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

13. Convert the mixed number into an improper fraction.

$$8\frac{4}{9}$$

14. Convert the mixed number into an improper fraction.

$$5\frac{2}{7}$$

ADDING AND SUBTRACTING MIXED NUMBERS

■ 1. Simplify the expression.

$$2\frac{1}{2} + 3\frac{1}{6}$$

■ 2. Simplify the expression.

$$5\frac{2}{3} + 1\frac{1}{12}$$

■ 3. Simplify the expression.

$$10\frac{3}{7} + 12\frac{1}{8}$$

■ 4. Simplify the expression.

$$8\frac{7}{8} - 2\frac{1}{8}$$

■ 5. Simplify the expression.

$$7\frac{4}{5} - 6\frac{1}{15}$$

■ 6. Simplify the expression.

$$15\frac{1}{2} - 11\frac{1}{4}$$

■ 7. Joey and Alex are both solving the following problem.

$$2\frac{1}{3} + 1\frac{3}{5}$$

Joey takes $2 + 1 = 3$ and then takes

$$\frac{1}{3} + \frac{3}{5} = \frac{14}{15}$$

Then he adds them together to get

$$3\frac{14}{15}$$

Alex decides to change both into improper fractions before adding. He gets

$$2\frac{1}{3} = \frac{7}{3} \text{ and } 1\frac{3}{5} = \frac{8}{5}$$

Then she finds common denominators and adds them together to get

$$\frac{59}{15}$$

Who solved this problem correctly?

■ 8. Simplify the expression.

$$3\frac{2}{5}+\frac{3}{10}-2\frac{3}{5}$$

MULTIPLYING AND DIVIDING MIXED NUMBERS

■ 1. Complete the statement.

When you multiply and divide mixed numbers, you need to change the mixed numbers into _____ fractions before you do the multiplication or division.

■ 2. Simplify the expression.

$$2\frac{4}{5} \cdot 4\frac{1}{2}$$

■ 3. Simplify the expression.

$$3\frac{3}{7} \cdot 1\frac{1}{7}$$

■ 4. Simplify the expression.

$$5\frac{1}{5} \cdot 2\frac{2}{3}$$

■ 5. Simplify the expression.

$$2\frac{3}{4} \div 5\frac{1}{8}$$

■ 6. Simplify the expression.

$$4\frac{5}{9} \div 2\frac{1}{4}$$

■ 7. Simplify the expression.

$$1\frac{4}{5} \div 3\frac{3}{8}$$

RELATIONSHIPS OF NUMBERS

1. Which fraction is larger?

$$\frac{1}{8} \text{ or } \frac{1}{6}$$

2. Which fraction is smaller?

$$\frac{3}{7} \text{ or } \frac{3}{8}$$

3. Find the number that's halfway between -3 and 5.

4. Find the number that's halfway between -5 and 2.

5. Find the fraction halfway between $1/2$ and $2/5$.

6. Find the fraction halfway between $1/10$ and $8/13$.

ADDING MIXED MEASURES

■ 1. Add the mixed measures.

4 seconds, 11 minutes, 3 hours, 35 minutes, 56 minutes, 35 seconds

■ 2. Add the mixed measures.

34 inches, 2 yards, 5 feet, 8 inches, 13 feet, 1 yard

■ 3. Add the mixed measures.

25 seconds, 1 hour, 15 minutes, 45 seconds, 22 minutes

■ 4. Add the mixed measures.

13 inches, 45 feet, 35 inches, 27 feet, 9 yards

■ 5. How many inches are in 5 feet?

■ 6. How many inches are in 2 yards?

- 7. How much of a yard is 1 foot?

- 8. How many seconds are in 1 hour?

- 9. How much of an hour is 1 minute?

- 10. How many seconds are in 5 minutes?

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