

UNIT 1: PRACTICE BIG GAME

Learning Target: I can fluently divide multi-digit numbers using the standard algorithm.

Key points: dividend (inside the house), divisor (outside the house), quotient (answer), long division

Practice:

1. 127,839 divided by 13

Handwritten long division for $127,839 \div 13$. The quotient is $9,833 \frac{10}{13}$. The work shows: $13 \overline{)127,839}$ with steps: $13 \times 9 = 117$, $13 \times 8 = 104$, $13 \times 3 = 39$.

2. Estimate the quotient of 10,258 and 101.

$10,000 \div 100 = 100$

3. $114,588 \div 23 =$

Handwritten long division for $114,588 \div 23$. The quotient is $4,982 \frac{2}{23}$. The work shows: $23 \overline{)114,588}$ with steps: $23 \times 4 = 92$, $23 \times 9 = 207$, $23 \times 8 = 184$.

Handwritten multiplication facts: $23 \times 4 = 92$, $23 \times 5 = 115$, $23 \times 9 = 207$, $23 \times 7 = 161$, $23 \times 8 = 184$.

Learning Target: I can find the greatest common factor (GCF) of two whole numbers less than or equal to 100

Key Points: factors (FEW), the numbers that multiply to get a product

Practice:

4. Find the GCF of:

Handwritten work for finding GCF:

- a. 6 and 10: LISTS: 6: 1, 2, 3, 6; 10: 1, 2, 5, 10. GCF: 2
- b. 14 and 21: TREES: 14 branches to 7 and 2; 21 branches to 7 and 3. GCF: 7
- c. 60 and 24: TREES: 60 branches to 30 and 2, 30 to 15 and 2, 15 to 5 and 3; 24 branches to 12 and 2, 12 to 6 and 2, 6 to 3 and 2. GCF: 12

5. Okemos Elementary is having an after school math club. Mr. Smith has 24 students in his classroom. Mrs. Jones has 30 students in her classroom. In order to compete fairly against each other, they want to organize their students into small groups that have the same number of students in each group.

What is the GREATEST number of students that they can have in a group?

Handwritten factor trees for 30 and 24. 30 branches to 2 and 15, 15 to 3 and 5. 24 branches to 6 and 4, 6 to 3 and 2, 4 to 2 and 2. $3 \cdot 2 = 6$ is circled as the answer.

Learning Target: I can find the least common multiple (LCM) of two whole numbers less than or equal to 12

Key Points: multiples (MANY), example: multiples of 8 include: 8, 16, 24, 32, 40, 48 ...

Practice:

6. Find the LCM of:

a. 10 and 4 $\begin{matrix} 10, 20, 30, 40 \\ 4, 8, 12, 16, 20 \end{matrix}$

b. 9 and 5 $9, 18, 27, 36, 45$

c. 6 and 9 $\begin{matrix} 5, 10, 15, 20, 25, 30, 35, 40, 45 \\ 6, 12, 18 \\ 9, 18 \end{matrix}$

7. Joe has lacrosse practice every third night, homework every other night, and football practice every fifth night. If Joe had all three events tonight, how many days will pass until he has all three again?

L: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

H: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30

F: 5, 10, 15, 20, 25, 30

30 days

Learning Target: Use the distributive property of multiplication to express a sum of two numbers.

Key Points: GCF (factor + factor)

Practice:

8. Please fill in the blanks in order to solve each problem.

$$\begin{array}{r} \overset{6}{\curvearrowright}(5+9) \\ 30 + 54 \\ \hline 84 \end{array}$$

$$\begin{array}{r} \overset{8}{\curvearrowright}(3+4) \\ 24 + 32 \\ \hline 56 \end{array}$$

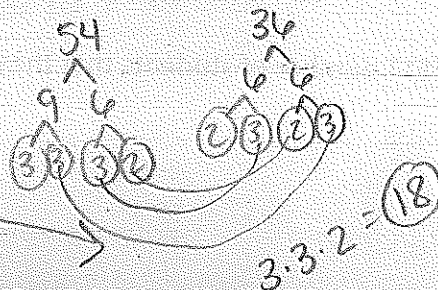
9. Use the distributive property to solve the expression.

$$\begin{array}{r} 30 + 24 \\ \underline{6(5 + 4)} \\ 54 \end{array}$$

10. Use the distributive property to solve the expression.

$$\begin{array}{r} 54 + 36 \\ \underline{18(3 + 2)} \end{array}$$

① Find GCF



Learning Target: I can multiply fractions fluently.

Key points: numerator, denominator, simplify before you multiply, change mixed numbers to improper fraction, of = multiply.

Practice:

11. $\frac{3}{5}$ of $\frac{2}{9} = \frac{2}{15}$

12. $\frac{1}{2} \cdot \frac{3}{5} = \frac{3}{10}$

13. $2\frac{1}{4} \cdot 5 = \frac{9}{4} \cdot \frac{5}{1} = \frac{45}{4} = 11\frac{1}{4}$

14. $6\frac{1}{2} \cdot 1\frac{1}{3} = \frac{13}{2} \cdot \frac{4}{3} = \frac{52}{6} = 8\frac{2}{3}$

Learning Target: I can compute and interpret quotients of fractions.

Key points: quotient, mixed numbers must be changed to improper fractions, reciprocal (flip)

Practice:

15. $\frac{3}{5} \div \frac{1}{2} = \frac{3}{5} \cdot \frac{2}{1} = \frac{6}{5} = 1\frac{1}{5}$

16. $1\frac{1}{2} \div \frac{4}{5} = \frac{3}{2} \cdot \frac{5}{4} = \frac{15}{8} = 1\frac{7}{8}$

17. $3\frac{1}{2} \div 2 = \frac{7}{2} \div 2 = \frac{7}{2} \cdot \frac{1}{2} = \frac{7}{4} = 1\frac{3}{4}$

18. $5\frac{1}{2} \div 2\frac{2}{3} = \frac{11}{2} \div \frac{8}{3} = \frac{11}{2} \cdot \frac{3}{8} = \frac{33}{16} = 2\frac{1}{16}$

19. Determine if Jake's work is correct or incorrect. Provide written feedback to help Jake if he is wrong.

$5\frac{1}{3} \div \frac{4}{5} = \frac{16}{3} \div \frac{4}{5} = \frac{64}{15} = 4\frac{4}{15}$
 $16 \cdot 4 = 64$

Jake did not do the problem correctly. He changed his mixed number to an improper fraction but forgot to multiply by the reciprocal (flip) of the 2nd fraction.

$\frac{16}{3} \div \frac{4}{5} = \frac{16}{3} \cdot \frac{5}{4} = \frac{20}{3} = 6\frac{2}{3}$

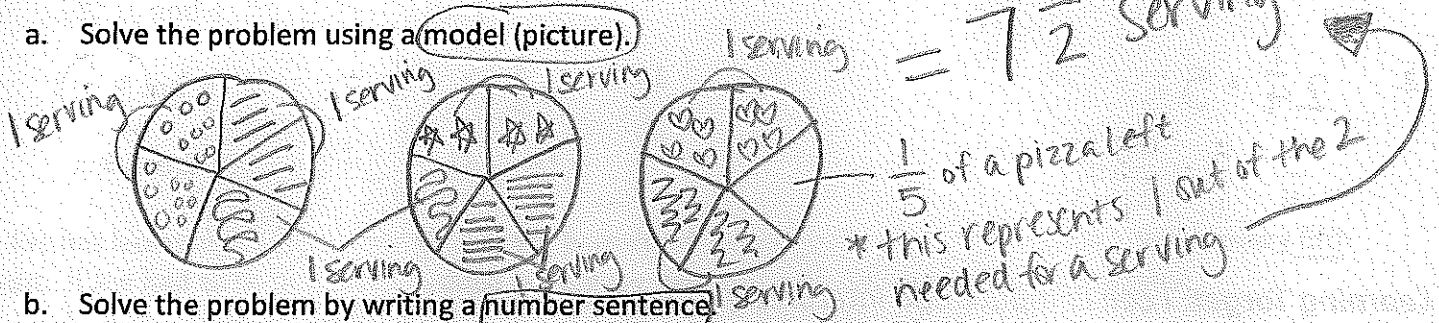
Learning Target: I can solve word problems involving the division of fractions using a variety of strategies.

Key points: models (pictures), equations (number sentence), quotient, remainder, LABEL

Practice:

20. Logan really likes pizza. He decides that a serving should be $\frac{2}{5}$ of a large pizza. Logan has ordered 3 large pizzas. How many servings does he have?

a. Solve the problem using a model (picture).



b. Solve the problem by writing a number sentence.

$$3 \div \frac{2}{5} = \frac{3}{1} \cdot \frac{5}{2} = \frac{15}{2} = 7\frac{1}{2}$$

c. How does your number sentence match the diagram?

3 large pizzas split into $\frac{2}{5}$ serving sizes

d. After 7 servings are eaten, how much is left?

$\frac{1}{5}$ of a large pizza is left

e. What does the fraction part of the answer represent?

The fraction, $\frac{1}{2}$, represents the portion of a serving that is left. One out of the two needed for a serving is left and therefore, $\frac{1}{2}$.