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Unit 3 Study Guide

1. Isaac has 6 gallons of flower nutrient for his garden. He plans to use the nutrients to feed his flowers for 30 days. If he wants to use the same amount of nutrients every day, how much of the nutrients should he use each day?

Solution: $\frac{1}{5} = \frac{6}{30}$ gallon each day

Number model: $6 \div 30$

2. Three writers held a story contest. They received 278 entries. If all three writers wanted to judge an equal number of stories how many stories should each writer judge?

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Solution: 92 R 2

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3 | 278 R 2
  - 27
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    02
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Number model: $278 \div 3$

Explain what you did with the remainder and why.

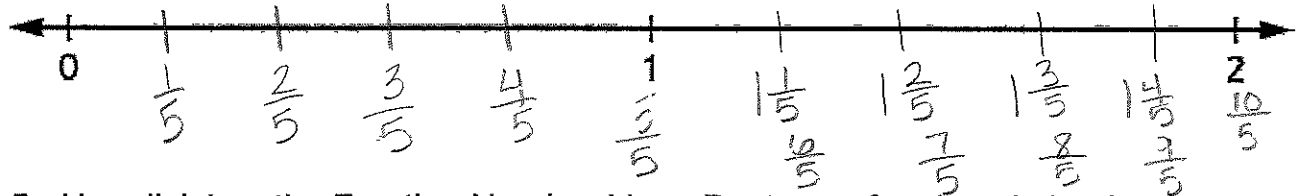
We ignored our remainder because each writer
wanted to read an equal number and having
a fraction of the story doesn't make sense

3. Write a division number story with an answer of $\frac{1}{5}$

I had 1 cookie. I wanted to share it with
4 of my friends equally. How much cookie will
each friend get?

4. Use paper and pencil to solve the problem.

Divide the number line below so that it shows fifths. Label the fifths on the number line.



5. Use division, the Fraction Number Lines Poster, or fraction circle pieces to rename the fractions as mixed numbers.

a. $\frac{24}{7} = 3\frac{3}{7}$

b. $\frac{27}{4} = 6\frac{3}{4}$

6. Explain how you renamed $\frac{27}{4}$ as a mixed number.

I thought how many groups of 4 I can make from 27. I found how many groups were left over for my fraction.

7. Roberta said, "I added $\frac{2}{5} + \frac{1}{3}$ and got $\frac{7}{4}$ " Does Roberta's answer make sense? No

Explain how you know without calculating an answer.

I know $\frac{2}{5}$ and $\frac{1}{3}$ are both less than $\frac{1}{2}$ and $\frac{7}{4}$ is close to 2. Answer $\frac{2}{5} + \frac{1}{3}$ would not get close to 2.

8. Write a fraction to make each number sentence true. Use your fraction circle pieces or the Fraction Number Lines Poster to help you.

a. $\frac{3}{3} + \frac{1}{3} > 1$

c. $1 + \frac{3}{4} > 1\frac{1}{4}$

b. $2\frac{1}{2} - \frac{1}{4} > 2$

d. $1 - \frac{1}{2} > \frac{1}{5}$

9. A baker had $3\frac{1}{2}$ pounds of flour. She used $\frac{4}{5}$ of a pound to make a loaf of bread. How much flour does she have left?

Number Model: $3\frac{1}{2} - \frac{4}{5}$

Estimate: about $2\frac{1}{2}$

Solution: $2\frac{7}{10}$ pounds of flour

$$3\frac{1 \times 5}{2 \times 5} - \frac{4 \times 2}{5 \times 2}$$

$$3\frac{5}{10} - \frac{8}{10}$$

$$2\frac{15}{10} - \frac{8}{10} = 2\frac{7}{10}$$

10. Henry is training to run a mile faster than before. One month he ran a mile in

$9\frac{1}{4}$ minutes. One month later, he ran a mile in $8\frac{2}{4}$ minutes. Henry told his coach that he ran a mile $1\frac{1}{4}$ minutes faster in the second month.

$$9\frac{1}{4} - 8\frac{2}{4}$$

$$-1 \downarrow 8\frac{2}{4} \quad 8\frac{5}{4} - 8\frac{2}{4}$$

a. What mistake did Henry make?

He subtracted his whole numbers then subtracted $\frac{1}{4} - \frac{2}{4}$, which is not correct

b. How much faster did Henry actually run a mile in the second month?

SHOW ALL WORK!

$\frac{3}{4}$ minutes faster

11. Solve: Use fractions circle pieces to help you.

a. $\frac{1}{8} + \frac{2}{24} = \frac{3}{24} + \frac{2}{24} = \frac{5}{24}$

b. $\frac{3}{6} + \frac{1}{18} = \frac{9}{18} + \frac{1}{18} = \frac{10}{18}$

12. What is:

a. $\frac{1}{5}$ of 25? = $\frac{25}{5} = 5$

b. $\frac{1}{7}$ of 21? = $\frac{21}{7} = 3$

c. $\frac{1}{3}$ of 10? = $3\frac{1}{3}$



d. $\frac{1}{4}$ of 15? = $3\frac{3}{4}$



13. Cynthia bought 45 movie passes at the theater. She gave a $\frac{1}{3}$ of the passes to her younger brother. How many passes did her brother get? Show work.

$\frac{1}{3}$ of 45? Her brother gets 15 movie passes

$$\begin{array}{r} 15 \\ 3 \overline{)45} \\ \underline{-30} \\ 15 \\ \underline{-15} \\ 0 \end{array}$$

14. Write another name for each mixed number that has the SAME denominator.

a. $5\frac{1}{7} = \frac{36}{7}$ or $4\frac{6}{7}$

$4\frac{6}{7} + \frac{1}{7}$

b. $2\frac{9}{8} = \frac{25}{8}$ or $3\frac{1}{8}$