

FRACTIONS

4

Name: Key Date: _____ Period: _____

CHAPTER 4: SPIRAL REVIEW

1. Evaluate the following expression using the Order of Operations:

$$10 - 2 \cdot 4 \div 2^3 \cdot 5 + 3$$

$$\begin{array}{r} 10 - 8 \div 8 \cdot 5 + 3 \\ \hline 10 - 1 \cdot 5 + 3 \\ \hline 10 - 5 + 3 \\ \hline 5 + 3 \\ \hline 8 \end{array}$$

2. Write an expression for each statement below, and then evaluate:

- a. 3 more than 8 times 5 $8 \cdot 5 + 3$
- b. 5 less than 30 divided by 2 $30 \div 2 - 5$
- c. 6 times the quotient of 8 and 4 $6 \cdot (8 \div 4)$
- d. 14 less than double 100 $2 \cdot 100 - 14$

3. Karmen gets regular shipments from Parcel Express. Every 12 days she gets a shipment of her favorite chocolate. Every 15 days she receives a new stock of her kitten's gourmet cat food. And every 6 days she gets a fresh supply of pineapples. If she just received all three shipments today, when is the next day she will again receive all three on the same day?

in 60 days

○ 12 24 36 48 (60)

○ 15 30 45 (60) 75

○ 6 12 18 24 30 36 42 48 54 (60)

60 is the LCM

4. Convert each of the mixed numbers to an improper fraction:

Mixed Number	Improper Fraction	Mixed Number	Improper Fraction	Mixed Number	Improper Fraction
$\frac{5}{12} + \frac{7}{12} + 1\frac{1}{2}$ =	$\frac{12}{12} + 1 + \frac{1}{2}$ $2\frac{1}{2} = \frac{5}{2}$	$30\frac{2}{5} =$	$\frac{152}{5}$	$7\frac{3}{5} =$	$\frac{35}{5} + \frac{3}{5} = \frac{38}{5}$
$6\frac{3}{8} =$	$\frac{48}{8} + \frac{3}{8} = \frac{51}{8}$	$9\frac{5}{9} =$	$\frac{81+5}{9} = \frac{86}{9}$	$8\frac{1}{2} =$	$\frac{16+1}{2} = \frac{17}{2}$
$11\frac{5}{8} =$	$\frac{88}{8} + \frac{5}{8} = \frac{93}{8}$	$10\frac{7}{9} =$	$\frac{90+7}{9} = \frac{97}{9}$	$20\frac{6}{7} =$	$\frac{140+6}{7} = \frac{146}{7}$

5. Finish the statement: In order to add or subtract fractions you must find common denominators.

6. Add or Subtract the following whole numbers, fractions, or mixed numbers. Be sure to show your work.

$\frac{6}{7} + \frac{5}{9} =$ $\frac{6 \cdot 9}{7 \cdot 9} + \frac{5 \cdot 7}{9 \cdot 7}$ $\frac{54}{63} + \frac{35}{63} = \frac{89}{63}$	$1\frac{5}{9} - \frac{3}{8} =$ $\frac{14}{9} - \frac{3}{8} = \frac{14 \cdot 8}{9 \cdot 8} - \frac{3 \cdot 9}{8 \cdot 9}$ $\frac{112}{72} - \frac{27}{72} = \frac{85}{72}$	$3\frac{1}{2} + 2\frac{8}{13} =$ $3\frac{13}{26}$ $+ 2\frac{8}{13}$ $\frac{5 \frac{29}{26}}{5 \frac{29}{26}} = 6\frac{3}{26}$
$\frac{5}{11} - \frac{1}{3} =$ $\frac{5 \cdot 3}{11 \cdot 3} - \frac{1 \cdot 11}{3 \cdot 11} = \frac{15}{33} - \frac{11}{33}$ $\frac{4}{33}$	$7 - \frac{11}{13} =$ $(7+1) - \frac{11}{13}$ $7 + \frac{13}{13} - \frac{11}{13}$ $7 + \frac{2}{13} = 7\frac{2}{13}$	$\frac{5}{16} + 4 =$ $4\frac{5}{16}$

7. Rewrite the fractions with a common denominator in order to compare. Write the fractions in original form from least to greatest.

a. $\frac{5}{12}, \frac{7}{10}, \frac{4}{5}$ LCM of 12, 10, and 5 is 60

2,2,3 2,5 5

$\frac{25}{60}, \frac{42}{60}, \frac{48}{60}$ $\boxed{\frac{5}{12}, \frac{7}{10}, \frac{4}{5}}$

b. $\frac{3}{4}, \frac{5}{8}, \frac{4}{9}$ LCM of 4, 8, and 9 is 72

2,2 2,2,2 3,3

$\frac{54}{72}, \frac{45}{72}, \frac{32}{72}$ $\boxed{\frac{4}{9}, \frac{5}{8}, \frac{3}{4}}$

c. $\frac{3}{5}, \frac{1}{8}, \frac{2}{3}$ LCM of 5, 8, and 3 is 120

5 2,2,2 3

$\frac{72}{120}, \frac{15}{120}, \frac{80}{120}$ $\boxed{\frac{1}{8}, \frac{3}{5}, \frac{2}{3}}$

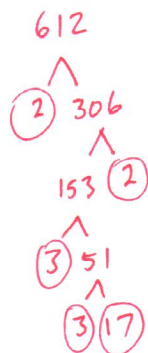
8. Randyn jogged $5\frac{1}{4}$ miles, Shane jogged $\frac{14}{3}$ miles, and Amy jogged $3\frac{15}{12}$ miles.

$\frac{21 \cdot 3}{4 \cdot 3} = \frac{63}{12}$ $\frac{14 \cdot 4}{3 \cdot 4} = \frac{56}{12}$ $\frac{51}{12}$

Who jogged the farthest? Explain your answer.

Randyn ran $\frac{63}{12}$ of a mile, or $5\frac{3}{12} = 5\frac{1}{4}$, while the other two ran fewer miles (fewer 12^{ths} when there is a common denominator.)

9. Write 612 as a product of its prime factors. 2 · 2 · 3 · 3 · 17



10. Show how you can use unit rates to add $\frac{5}{12} + \frac{7}{12}$:

See below, where $\frac{5}{12}$ is 5 twelfths
and $\frac{7}{12}$ is 7 twelfths.

$$\left(\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}\right) + \left(\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}\right)$$

$$12 \text{ twelfths} = \frac{12}{12} = 1.$$