

Key

FRACTION OPERATIONS - MIXED REVIEW

Read each question carefully. SHOW ALL WORK ON LOOSE-LEAF!

-FIND A COMMON DENOMINATOR when adding and subtracting fractions

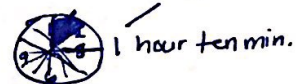
-CHANGE MIXED NUMBERS TO IMPROPER FRACTIONS when multiplying and dividing

-When MULTIPLYING fractions, multiply across or cross cancel
(Do NOT get a common denominator)

-When DIVIDING fractions, multiply by the reciprocal! (Keep, Change, Flip)

1. From the time you wake up, you need $\frac{3}{4}$ hour to get ready for school and $\frac{5}{12}$ hour to travel from home to school.

a) Find the time, in fractions of an hour, that it takes you to get to school from the time you wake up. ADD $\frac{3}{4} + \frac{5}{12} \Rightarrow \frac{9}{12} + \frac{5}{12} = \frac{14}{12} \Rightarrow 1\frac{2}{12} = \boxed{1\frac{1}{6}}$ hour



b) If you wake up at 6:30am, can you get to school by 7:30am?
No, because it will take you over an hour to get ready + travel to school. $1\frac{1}{6}$ hour = 1 hour 10 minutes

2. At the beginning of a trip, a car's gas tank contained $16\frac{2}{5}$ gallons of gasoline. At the end of the trip, it contained $7\frac{3}{4}$ gallons. How many gallons of gasoline did the car use?

$16\frac{2}{5} - 7\frac{3}{4}$
 $\left(16\frac{8}{20}\right) - \left(7\frac{15}{20}\right)$ rename $\frac{15}{16} \frac{8+20}{20} = 15\frac{28}{20} - 7\frac{15}{20} = \boxed{8\frac{13}{20}}$ gallons
subtract

3. A shelf is $20\frac{1}{2}$ inches wide. How many CDs can it hold if each CD is $\frac{7}{16}$ inches wide? (\div)

$20\frac{1}{2} \div \frac{7}{16}$
 \downarrow
 $\frac{41}{2} \div \frac{7}{16} \xrightarrow{\text{KCF}} \frac{41}{2} \cdot \frac{16}{7} = \frac{328}{7}$
 $7 \overline{)328}$
 $\underline{-28}$
 48
 $\underline{-42}$
 6
 $46\frac{6}{7}$ Only $\boxed{46}$ CDs will fit on the shelf.

4. The average adult horse needs $\frac{2}{5}$ bale of hay each day to meet dietary requirements. A horse farm has 44 bales of hay. How many horses can be fed in one day with 44 bales? (\div)

$44 \div \frac{2}{5}$
 $22 \overline{)44} \cdot \frac{5}{2} = \boxed{110}$ horses

5. A male tree frog is $\frac{3}{5}$ the size of the female tree frog. The average size of a female tree frog is $6\frac{2}{3}$ inches. What is the size of a male tree frog?

$$\frac{3}{5} \cdot 6\frac{2}{3} \Rightarrow \frac{1\cancel{2}}{5} \cdot \frac{20}{\cancel{3}} = \boxed{4 \text{ inches}}$$

6. Mrs. Ashley teaches 110 students throughout the day. Of those students, $\frac{3}{5}$ are girls. Of the girls, $\frac{1}{3}$ scored a 100% on their last test. How many girls scored a 100%? (x)

$$\frac{110}{1} \cdot \frac{3}{5} = 66 \text{ girls} \quad \frac{66}{1} \cdot \frac{1}{3} = \boxed{22 \text{ girls}} \text{ scored a 100\%}$$

7. Kevin bought $\frac{8}{9}$ pound of mixed candy from the store. He wants to share the candy equally into $\frac{3}{9}$ pound bags. How many full bags can Kevin fill? (\div)

$$\frac{8}{9} \div \frac{3}{9} \Rightarrow \frac{8}{\cancel{9}} \cdot \frac{\cancel{9}^1}{3} = \frac{8}{3} = 2\frac{2}{3} \quad \text{Kevin can only fill } \boxed{2 \text{ full bags}}$$

8. Kate completed a fundraising walk in $4\frac{2}{5}$ hours. The walk was $14\frac{2}{3}$ miles long. How many miles did she average each hour? (\div)

$$14\frac{2}{3} \div 4\frac{2}{5} \rightarrow \frac{44}{3} \cdot \frac{5}{22} = \frac{10}{3} = \boxed{3\frac{1}{3} \text{ miles per hr.}}$$

9. Find the quotient.

a) $4 \div \frac{2}{3}$ $\frac{4}{1} \cdot \frac{3}{2} = \frac{6}{1} = \boxed{6}$

b) $\frac{2}{3} \div \frac{4}{1}$ $\frac{2}{3} \cdot \frac{1}{4} = \frac{1}{6}$

c) $2\frac{4}{6} \div \frac{1}{3}$ $\frac{16}{6} \div \frac{1}{3} \rightarrow \frac{16}{2} \cdot \frac{3}{1} = \frac{16}{2} = \boxed{8}$

10. There are 150 students in the band and 90 students in the chorus. One half of the band members and $\frac{4}{5}$ of the chorus members participated in a charity concert. How (-) many more band members than chorus members participated in the concert?

$$\frac{1}{2} \cdot \frac{150}{1} = 75 \text{ band}$$

$$\frac{4}{5} \cdot \frac{90}{1} = 72 \text{ chorus}$$

$$\begin{array}{r} 75 \\ -72 \\ \hline \end{array}$$

$\boxed{3 \text{ more band members}}$

11) Quinn is building a deck. He has twelve pieces of wood that are $10\frac{1}{2}$ feet long. He needs to cut them into $3\frac{1}{4}$ foot sections. How many $3\frac{1}{4}$ foot sections can he get from each piece of wood?

$$10\frac{1}{2} \div 3\frac{1}{4} \rightarrow \frac{21}{2} \cdot \frac{4}{13} = \frac{42}{13} = 3\frac{3}{13} \rightarrow \boxed{3 \text{ sections}}$$

$\frac{21}{2} \div \frac{13}{4}$

12) Robbie has a total of 6 cups of soup. How many friends can he serve if each friend gets $\frac{2}{3}$ of a cup of soup?

$$6 \div \frac{2}{3} \Rightarrow 3\frac{16}{1} \cdot \frac{3}{2} = \boxed{9 \text{ friends}}$$

13) A baker has $\frac{3}{4}$ cup of sugar. She uses $\frac{1}{8}$ cup of sugar for each loaf of bread she makes.

Part A: Which of the following expressions can be used to determine the total number of loaves of bread the baker can make using the amount of sugar she has?

a) $\frac{1}{8} + \frac{3}{4}$

b) $\frac{3}{4} \cdot \frac{1}{8}$

c) $\frac{1}{8} \div \frac{3}{4}$

d) $\frac{3}{4} \div \frac{1}{8}$

K C F
 $\frac{3}{4} \div \frac{1}{8}$

$\frac{3}{4} \cdot \frac{8}{1} = 6$

Part B: What is the total amount of loaves of bread the baker can make using the amount of sugar she has?

6 loaves