Unit 8 Review Packet

Name _____

Date _____

1. Write each fraction as a decimal and a percent.

   a. $3/10$ _____ b. $12/25$ _____

2. What is a common denominator for $5/7$ and $5/9$? _____

3. Explain how you found the common denominator in Problem 3. _____

   _____

   _____

4. Is $12/25$ greater than or less than $1/2$? _____

5. Explain how you decided on your answer for Problem 5. _____

   _____

   _____

6. a. Use your ruler to draw a line segment $3\,1/4$ inches long.

   b. If you added an inch and a half to this line segment, how long would the new line segment be? _____

   c. If you erased a half an inch from the <u>original</u> line segment, how long would the new line segment be? _____

   d. If you drew a line segment twice as long as the <u>original</u> line segment, how long would the new line segment be? _____

   e. If you drew a line segment that was half as long as the <u>original</u> line segment, how long would the new line segment be? _____

7. Add or subtract. Write your answer in simplest form. **WATCH YOUR SIGNS!!!**

a. $4/7 + 1/7 =$ _____

b. $1/4 + 1/2 =$ _____

c. $3\ 4/7 + 2\ 1/7 =$ _____

d. $1\ 1/4 + 1\ 1/2 =$ _____

e. $\begin{array}{r} 8 \\ 9 \\ \hline \end{array}$ $\begin{array}{r} 2 \\ -\ 3 \\ \hline \end{array}$

f. $\begin{array}{r} 5 \\ 7 \\ \hline \end{array}$ $\begin{array}{r} 1 \\ -\ 3 \\ \hline \end{array}$

g. $3/4 - 1/2 =$ _____

h. $7/9 - 1/3 =$ _____

i. $4\ 3/4 - 2\ 1/2 =$ _____

j. $1\ 7/9 - 1\ 1/3 =$ _____

k. $\begin{array}{r} 7 \\ 8 \\ \hline \end{array}$ $\begin{array}{r} 1 \\ +\ 2 \\ \hline \end{array}$

l. $\begin{array}{r} 7 \\ 8 \\ \hline \end{array}$ $\begin{array}{r} 5 \\ +\ 6 \\ \hline \end{array}$

8. Solve each problem.

a. Zoey, the zoologist at the Lincoln Park Zoo, wanted to find out if Woolly the Mammoth was getting enough food. In order to find out, she had to measure Woolly's length on two separate days a week apart and compare those measurements to a normal mammoth in the wild. On Monday, Woolly was $118\ 3/4$ inches long. By Friday, Woolly was $123\ 1/8$ inches long. How much had Woolly grown in those five days? _____

b. Explain how you found your answer in Problem 8a. _____

_____

_____

9. How many minutes are there in $\frac{2}{3}$ of an hour? _____

10. Jennifer baked two dozen cookies. If 25% of them were chocolate chip cookies, how many chocolate chip cookies were there? _____

11. Fill in the missing number.

a. $4\frac{3}{4} = 3\frac{\square}{4}$

b. $5\frac{3}{8} = 4\frac{\square}{8}$

c. $2\frac{1}{4} = \square\frac{5}{4}$

d. $3\frac{1}{7} = \square\frac{8}{7}$

12. Fill in the oval next to possible common denominators for each fraction pair. (There may be more than one correct answer.)

a. $\frac{7}{9}$ & $\frac{1}{3}$

- ○ 3
- ○ 6
- ○ 9
- ○ 18

b. $\frac{1}{4}$ & $\frac{1}{2}$

- ○ 2
- ○ 4
- ○ 6
- ○ 8

c. $\frac{5}{8}$ & $\frac{3}{4}$

- ○ 2
- ○ 4
- ○ 6
- ○ 8

d. $\frac{3}{8}$ & $\frac{1}{6}$

- ○ 6
- ○ 8
- ○ 24
- ○ 48

13. List the eight fractions from Problem 24 in order from smallest to largest.

Smallest _____ _____ _____ _____ _____ _____ _____ _____ Largest

14. Multiply. Write your answer in simplest form.

a. $\frac{3}{4} * \frac{1}{2} =$ _____

c. $2\frac{1}{6} * 1\frac{1}{2} =$ _____

b. $\frac{7}{9} * \frac{5}{8} =$ _____

d. $4\frac{7}{9} * 3\frac{1}{5} =$ _____

15. What part of these 3 pages was the most difficult for you? What should you study the most?

_____

Name _____ Date _____

Fraction Tracker

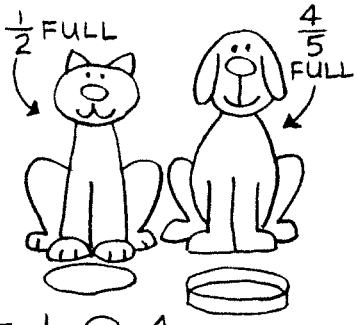
TO COMPARE FRACTIONS THE DENOMINATORS MUST BE THE SAME.

EXAMPLE:

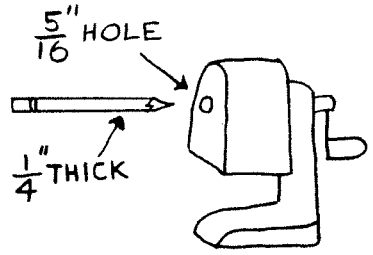
$\frac{4}{6} \bigcirc \frac{5}{8} \rightarrow \frac{4}{6} \times \frac{4}{4} = \frac{16}{24}$ and $\frac{5}{8} \times \frac{3}{3} = \frac{15}{24} \rightarrow \frac{16}{24}$ and $\frac{15}{24} \rightarrow 16 > 15$

SO $\frac{4}{6} (>) \frac{5}{8}$. WRITE <, >, OR = IN EACH CIRCLE.

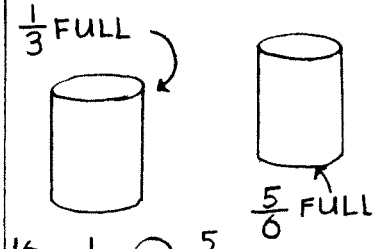
1. $\frac{3}{8} \bigcirc \frac{1}{2}$
2. $\frac{2}{3} \bigcirc \frac{4}{5}$
3. $\frac{1}{5} \bigcirc \frac{1}{4}$
4. $\frac{1}{10} \bigcirc \frac{1}{5}$



5. $\frac{1}{2} \bigcirc \frac{4}{5}$
6. $\frac{2}{3} \bigcirc \frac{3}{8}$
7. $\frac{1}{2} \bigcirc \frac{1}{3}$
8. $\frac{2}{5} \bigcirc \frac{3}{4}$
9. $\frac{3}{10} \bigcirc \frac{1}{5}$
10. $\frac{2}{5} \bigcirc \frac{4}{10}$
11. $\frac{1}{4} \bigcirc \frac{1}{3}$
12. $\frac{1}{2} \bigcirc \frac{1}{4}$
13. $\frac{1}{4} \bigcirc \frac{2}{8}$
14. $\frac{2}{10} \bigcirc \frac{1}{5}$



15. $\frac{1}{4} \bigcirc \frac{5}{16}$



16. $\frac{1}{3} \bigcirc \frac{5}{6}$
17. $\frac{3}{4} \bigcirc \frac{5}{8}$
18. $\frac{2}{3} \bigcirc \frac{5}{6}$
19. $\frac{5}{8} \bigcirc \frac{3}{5}$
20. $\frac{1}{4} \bigcirc \frac{1}{10}$
21. $\frac{2}{5} \bigcirc \frac{3}{10}$
22. $\frac{2}{9} \bigcirc \frac{3}{4}$
23. $\frac{2}{10} \bigcirc \frac{1}{5}$

24. FIND THE COMMON DENOMINATOR, THEN ARRANGE THE FRACTIONS IN ORDER FROM THE SMALLEST TO THE LARGEST.

$\frac{3}{4}, \frac{2}{3}, \frac{1}{2}, \frac{3}{5}, \frac{5}{6}, \frac{4}{10}$

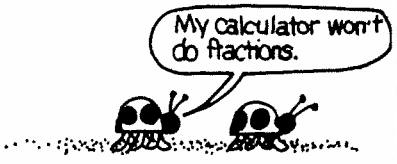
ADDING FRACTIONS - SAME DENOMINATOR

To add two fractions when the denominators (bottom numbers) are the same, add the numerators (top numbers) and keep the same denominator.

$$\frac{4}{8} + \frac{2}{8} = \frac{6}{8}$$

Add:

1. $\frac{2}{7} + \frac{3}{7} =$
2. $\frac{1}{4} + \frac{2}{4} =$
3. $\frac{1}{9} + \frac{4}{9} =$
4. $\frac{3}{8} + \frac{4}{8} =$
5. $\frac{4}{9} + \frac{3}{9} =$
6. $\frac{3}{5} + \frac{1}{5} =$
7. $\frac{5}{7} + \frac{1}{7} =$
8. $\frac{8}{12} + \frac{3}{12} =$
9. $\frac{2}{5} + \frac{2}{5} =$
10. $\frac{5}{8} + \frac{2}{8} =$
11. $\frac{3}{16} + \frac{4}{16} =$
12. $\frac{3}{14} + \frac{8}{14} =$
13. $\frac{1}{8} + \frac{5}{8} =$
14. $\frac{5}{9} + \frac{2}{9} =$
15. $\frac{3}{7} + \frac{1}{7} =$
16. $\frac{1}{9} + \frac{3}{9} =$
17. $\frac{3}{16} + \frac{5}{16} =$
18. $\frac{14}{19} + \frac{3}{19} =$



Name _____

Adding Fractions

Add. Simplify if needed.

A. $\frac{1}{3}+\frac{1}{3}=$	B. $\frac{3}{9}+\frac{2}{9}=$	
C. $\frac{1}{2}+\frac{1}{4}=$	D. $\frac{1}{6}+\frac{1}{6}=$	E. $\frac{1}{5}+\frac{3}{10}=$
F. $\frac{1}{3}+\frac{2}{9}=$	G. $\frac{2}{7}+\frac{3}{7}=$	H. $\frac{3}{8}+\frac{1}{4}=$
I. $\frac{1}{10}+\frac{1}{5}=$	J. $\frac{2}{3}+\frac{1}{6}=$	K. $\frac{7}{12}+\frac{1}{12}=$
L. $\frac{3}{4}+\frac{1}{8}=$	M. $\frac{1}{2}+\frac{1}{5}=$	N. $\frac{4}{15}+\frac{1}{3}=$
O. $\frac{5}{12}+\frac{1}{6}=$	P. $\frac{2}{5}+\frac{1}{10}=$	Q. $\frac{2}{3}+\frac{1}{4}=$

Write an addition sentence with the given sum.

_____ + _____ = $\frac{7}{8}$

_____ + _____ = $\frac{5}{6}$

ADD AND SUBTRACT WITH MIXED NUMERALS

Remember all you know about fractions. Name _____

$3\frac{1}{5} + 2\frac{3}{5} = \frac{4}{5}$

Add the fractional numbers first.

Then add the whole numbers.

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

$= 5\frac{4}{5}$

$4\frac{7}{10} - 3\frac{4}{10} = \frac{3}{10}$

Subtract fractional numbers first.

Subtract the whole numbers.

$4\frac{7}{10} - 3\frac{4}{10} = 1$

$= 1\frac{3}{10}$

Add or subtract. Simplify or reduce your answer if necessary.

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

2. $4\frac{3}{10} + 6\frac{6}{10}$

3. $4\frac{8}{10} - 2\frac{5}{10}$

4. $9\frac{13}{15} - 8\frac{7}{15}$

5. $12\frac{6}{9} - 12\frac{5}{9}$

6. $6\frac{3}{11} + 7\frac{4}{11}$

7. $9\frac{2}{8} + 8\frac{4}{8}$

8. $8\frac{2}{6} + 6\frac{3}{6}$

9. $17\frac{16}{20} - 9\frac{11}{20}$

10. $10\frac{4}{7} + 9\frac{2}{7}$

11. $10\frac{6}{7} - 7\frac{2}{7}$

12. $2\frac{8}{12} - 1\frac{7}{12}$

MULTIPLICATION OF COMMON FACTORS

When the fractional numerals are large, use a shortcut to multiply fractions.

$\frac{6}{7} \times \frac{5}{6} = \frac{{}^{1}\cancel{6}}{7} \times \frac{5}{\cancel{6}_{1}}$

6 can go into 6 one time.
Therefore, the 6's can be reduced to 1's.

$\frac{{}^{1}\cancel{6}}{7} \times \frac{5}{\cancel{6}_{1}} = \frac{1 \times 5}{7 \times 1} = \frac{5}{7}$

$\frac{6}{10} \times \frac{5}{8} =$

STEP 1

$\frac{{}^{3}\cancel{6}}{10} \times \frac{5}{\cancel{8}_{4}}$

2 into 8 = 4
2 into 6 = 3

STEP 2

$\frac{6}{\cancel{10}_{2}} \times \frac{\cancel{5}^{1}}{8}$

5 into 5 = 1
5 into 10 = 2

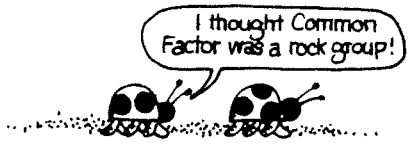
STEP 3

$\frac{{}^{3}\cancel{6}}{\cancel{10}_{2}} \times \frac{\cancel{5}^{1}}{\cancel{8}_{4}} =$

$\frac{3}{2} \times \frac{1}{4} = \frac{3}{8}$

Multiply. Use the shortcut.

1. $\frac{3}{8} \times \frac{5}{6}$
2. $\frac{2}{3} \times \frac{3}{5}$
3. $\frac{2}{4} \times \frac{4}{9}$
4. $\frac{3}{4} \times \frac{4}{9}$
5. $\frac{2}{5} \times \frac{5}{8}$
6. $\frac{4}{9} \times \frac{3}{12}$
7. $\frac{4}{5} \times \frac{5}{6}$
8. $\frac{5}{6} \times \frac{6}{8}$
9. $\frac{3}{4} \times \frac{4}{7}$
10. $\frac{2}{3} \times \frac{5}{8}$
11. $\frac{7}{9} \times \frac{3}{5}$
12. $\frac{2}{7} \times \frac{3}{6}$
13. $\frac{2}{4} \times \frac{3}{4}$
14. $\frac{2}{5} \times \frac{3}{4}$
15. $\frac{4}{10} \times \frac{5}{12}$



More Fraction Practice

Find each product. Show your work. Reduce your answers to lowest terms.

1. $\frac{1}{3} \times \frac{2}{4}$
2. $\frac{1}{4} \times \frac{3}{6}$
3. $\frac{1}{2} \times \frac{3}{4}$
4. $\frac{1}{3} \times \frac{1}{5}$
5. $\frac{1}{6} \times \frac{3}{7}$
6. $\frac{2}{6} \times \frac{1}{8}$
7. $\frac{3}{5} \times \frac{2}{4}$
8. $\frac{2}{3} \times \frac{1}{5}$
9. $\frac{3}{8} \times \frac{1}{6}$
10. $\frac{1}{2} \times \frac{2}{3}$
11. $\frac{1}{4} \times \frac{2}{5}$
12. $\frac{4}{6} \times \frac{1}{7}$
13. $\frac{1}{3} \times \frac{4}{5}$
14. $\frac{1}{5} \times \frac{3}{6}$
15. $\frac{1}{4} \times \frac{5}{6}$
16. $\frac{2}{6} \times \frac{3}{5}$
17. $\frac{1}{3} \times \frac{1}{4}$
18. $\frac{3}{5} \times \frac{6}{7}$

Multiplying Mixed Numbers

Example A

$$4\frac{1}{3} \times 2\frac{1}{2} = \frac{13}{3} \times \frac{5}{2} = \frac{65}{6} = 10\frac{5}{6}$$

(multiply: 13×5; multiply: 3×2)

Example B

$$1\frac{3}{5} \times 4\frac{1}{6} = \frac{8}{5} \times \frac{25}{6} = \frac{\cancel{8}^{4}}{\cancel{5}_{1}} \times \frac{\cancel{25}^{5}}{\cancel{6}_{3}} = \frac{20}{3} = 6\frac{2}{3}$$

multiply: 4×5; multiply: 1×3

Example C

$$8\frac{1}{4} \times 3\frac{7}{11} = \frac{33}{4} \times \frac{40}{11} = \frac{\cancel{33}^{3}}{\cancel{4}_{1}} \times \frac{\cancel{40}^{10}}{\cancel{11}_{1}} = \frac{30}{1} = 30$$

multiply: 3×10; multiply: 1×1

Steps:

1. Change mixed numbers to improper fractions.
2. Cancel if possible.
3. Multiply numerators.
4. Multiply denominators.
5. Write improper fractions as mixed numbers.

Multiply.

1. $5\frac{1}{3} \times 4\frac{1}{2} = \frac{16}{3} \times \frac{9}{2} = 24$

2. $1\frac{2}{3} \times 1\frac{3}{4}$

3. $1\frac{3}{10} \times 3\frac{3}{4}$

4. $1\frac{7}{8} \times 2\frac{2}{5}$

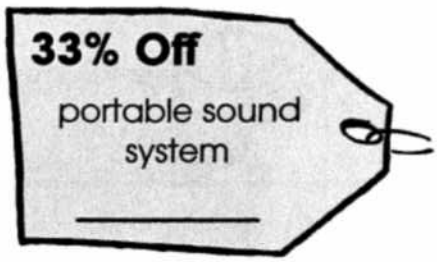
5. $2\frac{6}{7} \times 2\frac{4}{5}$

6. $4\frac{3}{8} \times 1\frac{1}{15}$

After-Holiday Sale!

After the holidays, everything at Big Buys is discounted. Calculate the discounts and subtract from the regular prices. Write the discounted prices on the sale tags.

$129.95



$46.97

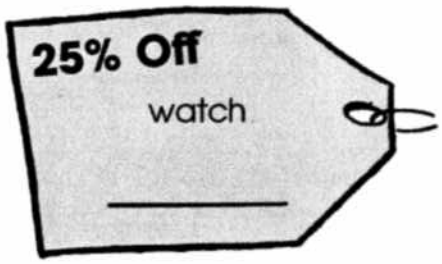
$99.99

$85.29

$25.14

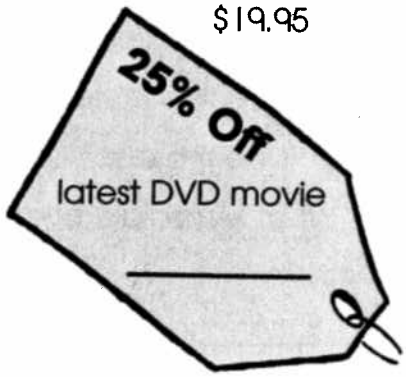
$99.99

$37.89



$67.99

$19.95



Finding Percent of a Number

Example A 80% of 20 is what number?

1. Write percent as a decimal.
2. Multiply the two numbers.

80% = .8

$$\begin{array}{r} 20 \\ \times\ .8 \\ \hline 16.0 \end{array}$$

Answer = 16

Example B What is 73% of 50?

73% = .73

$$\begin{array}{r} 50 \\ \times\ .73 \\ \hline 150 \\ +\ 3500 \\ \hline 36.50 \end{array}$$

Answer = 36.5

Find the percents.

1. 60% of 200

2. 42% of 5

3. 95% of 160

4. 21% of 141

5. 15% of 60

6. 20% of 50

7. 69.2% of 21

8. 33% of 70

9. 80.1% of 200