

**Metamora Grade School  
Junior High Math Team**

**Summer 2018, 6<sup>th</sup> grade going into 7<sup>th</sup> grade**

Dear Parents and Students,

Mathematics is a discipline that constantly builds on previous knowledge. Students entering the next grade level will be expected to recall and apply the material they learned in their previous math class. To help ensure the student is prepared for the next grade level, packets have been provided. Please take some time this summer to utilize the resource for retention of the fundamental math concepts. Another great resource for math concepts is Khan Academy. The website provides tutorials along with practice. The website is <http://www.khanacademy.org>.

It is very important for students to be fluent with addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals. We suggest that when you do these problems or activities do not use a calculator.

You can also find the packet on the school website.

Thank you and have a great summer doing and enjoying math,

Junior High Math Team

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Follow these steps to add or subtract fractions with different denominators.

- ① Write the fractions with the same denominator.
- ② Add or subtract the numerators.
- ③ Simplify the fraction.

Add:  $\frac{1}{3} + \frac{1}{6}$   
 $\frac{2}{6} + \frac{1}{6}$

Subtract:  $\frac{11}{12} - \frac{1}{6}$   
 $\frac{11}{12} - \frac{2}{12}$

$\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$   
 $\frac{3}{6} = \frac{1}{2}$

$\frac{11}{12} - \frac{2}{12} = \frac{9}{12}$   
 $\frac{9}{12} = \frac{3}{4}$

Adding and Subtracting Mixed Numbers

Follow these steps to add or subtract mixed numbers with different denominators.

- ① Write the equivalent fractions with the LCD.
- ② Rename, if necessary.
- ③ Add or subtract the whole numbers. Add or subtract the fractions.
- ④ Simplify.

Add:  $2\frac{2}{5} + 1\frac{3}{4}$   
 $2\frac{8}{20} + 1\frac{15}{20}$

Subtract:  $4\frac{1}{3} - 2\frac{5}{6}$   
 $4\frac{2}{6} - 2\frac{5}{6}$

$2\frac{8}{20} + 1\frac{15}{20} = 3\frac{23}{20}$

$4\frac{2}{6} = 3 + 1\frac{2}{6} = 3\frac{8}{6}$

$3\frac{8}{6} - 2\frac{5}{6} = 1\frac{3}{6}$

$3\frac{23}{20} = 4\frac{3}{20}$

$1\frac{3}{6} = 1\frac{1}{2}$

Multiplying Fractions and Mixed Numbers

Follow these steps to multiply fractions and mixed numbers.

- ① Write the mixed numbers as improper fractions if necessary.
- ② Multiply numerators. Multiply denominators.
- ③ Simplify, if necessary.

Multiply:  $\frac{3}{4} \cdot \frac{2}{5}$

Multiply:  $2\frac{2}{3} \cdot 1\frac{5}{8}$

$\frac{8}{3} \cdot \frac{13}{8}$

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

$\frac{8 \cdot 13}{3 \cdot 8} = \frac{104}{24}$

$\frac{6}{20} = \frac{3}{10}$

$\frac{104}{24} = 4\frac{1}{3}$

Dividing Fractions

Find  $8 \div \frac{4}{5}$ .

- ① The reciprocal of  $\frac{4}{5}$  is  $\frac{5}{4}$ .

$\frac{4}{5} \times \frac{5}{4}$

- ② Multiply 8 by the reciprocal.

$8 \div \frac{4}{5} = 8 \times \frac{5}{4} = \frac{2\cancel{8}}{1} \times \frac{5}{\cancel{4}_1} = \frac{2 \times 5}{1 \times 1} = 10$

$8 \div \frac{4}{5} = 10$

Find  $\frac{4}{9} \div \frac{8}{15}$ .

- ① The reciprocal of  $\frac{8}{15}$  is  $\frac{15}{8}$ .

$\frac{8}{15} \times \frac{15}{8}$

- ② Multiply  $\frac{4}{9}$  by the reciprocal.

$\frac{4}{9} \div \frac{8}{15} = \frac{4}{9} \times \frac{15}{8} = \frac{1\cancel{4}}{3} \times \frac{1\cancel{5}_5}{\cancel{8}_2} = \frac{1 \times 5}{3 \times 2} = \frac{5}{6}$

$\frac{4}{9} \div \frac{8}{15} = \frac{5}{6}$

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6A

**BASIC SKILLS****Adding and Subtracting Fractions**

Find the sum or difference.

1.  $\frac{1}{3} + \frac{1}{3} = \underline{\quad}$

2.  $\frac{2}{5} + \frac{1}{5} = \underline{\quad}$

3.  $\frac{6}{12} - \frac{5}{12} = \underline{\quad}$

4.  $\frac{6}{7} - \frac{4}{7} = \underline{\quad}$

5.  $\frac{8}{11} - \frac{1}{11} = \underline{\quad}$

6.  $\frac{4}{14} + \frac{5}{14} = \underline{\quad}$

Find the sum or difference. Write in simplest form.

7. 
$$\begin{array}{r} \frac{9}{10} \\ - \frac{7}{10} \\ \hline \end{array}$$

8. 
$$\begin{array}{r} \frac{5}{9} \\ - \frac{2}{9} \\ \hline \end{array}$$

9. 
$$\begin{array}{r} \frac{3}{8} \\ + \frac{3}{8} \\ \hline \end{array}$$

10. 
$$\begin{array}{r} \frac{2}{3} \\ + \frac{2}{3} \\ \hline \end{array}$$

11. 
$$\begin{array}{r} \frac{1}{3} \\ + \frac{1}{6} \\ \hline \end{array}$$

12. 
$$\begin{array}{r} \frac{1}{4} \\ + \frac{3}{8} \\ \hline \end{array}$$

13. 
$$\begin{array}{r} \frac{3}{4} \\ - \frac{1}{12} \\ \hline \end{array}$$

14. 
$$\begin{array}{r} \frac{4}{5} \\ - \frac{1}{10} \\ \hline \end{array}$$

15. 
$$\begin{array}{r} \frac{1}{9} \\ + \frac{1}{3} \\ \hline \end{array}$$

16. 
$$\begin{array}{r} \frac{1}{10} \\ + \frac{2}{5} \\ \hline \end{array}$$

17. 
$$\begin{array}{r} \frac{2}{3} \\ + \frac{1}{9} \\ \hline \end{array}$$

18. 
$$\begin{array}{r} \frac{5}{8} \\ - \frac{1}{2} \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 3\frac{3}{6} \\ + 1\frac{2}{3} \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 3\frac{7}{10} \\ + 4\frac{4}{5} \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 4\frac{7}{8} \\ - 2\frac{1}{2} \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 2\frac{5}{8} \\ + 2\frac{3}{4} \\ \hline \end{array}$$

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6B

**BASIC SKILLS****Adding and Subtracting Fractions**

Find the sum or difference. Write in simplest form.

1. 
$$\begin{array}{r} \frac{13}{25} \\ - \frac{1}{5} \\ \hline \end{array}$$

2. 
$$\begin{array}{r} \frac{5}{8} \\ - \frac{1}{4} \\ \hline \end{array}$$

3. 
$$\begin{array}{r} \frac{4}{9} \\ - \frac{1}{3} \\ \hline \end{array}$$

4. 
$$\begin{array}{r} \frac{11}{12} \\ - \frac{3}{4} \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 3\frac{4}{7} \\ - 2\frac{1}{3} \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 5\frac{1}{3} \\ + 4\frac{3}{4} \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 7\frac{2}{3} \\ + 1\frac{4}{8} \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 4\frac{3}{5} \\ + 1\frac{2}{6} \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 9\frac{8}{10} \\ - 2\frac{2}{5} \\ \hline \end{array}$$

10. 
$$\begin{array}{r} \frac{1}{3} \\ + \frac{3}{5} \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 18\frac{4}{6} \\ - 5\frac{1}{3} \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 9\frac{9}{10} \\ - 7\frac{1}{2} \\ \hline \end{array}$$

Rename before subtracting. Write the answer in simplest form.

13. 
$$\begin{array}{r} 4\frac{1}{8} \\ - 2\frac{3}{8} \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 9\frac{2}{8} \\ - 2\frac{5}{8} \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 7\frac{3}{5} \\ - 1\frac{4}{5} \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 9\frac{2}{8} \\ - 2\frac{5}{8} \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 4\frac{2}{8} \\ - 1\frac{3}{5} \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 12\frac{1}{2} \\ - 6\frac{4}{5} \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 7\frac{2}{4} \\ - 3\frac{4}{6} \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 35\frac{1}{5} \\ - 31\frac{1}{2} \\ \hline \end{array}$$

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7A

**BASIC SKILLS****Multiplying Fractions**

Draw a model to find the product.

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

2.  $8 \times \frac{3}{4}$

3.  $10 \times \frac{5}{6}$

4.  $3 \times \frac{4}{5}$

5.  $6 \times \frac{3}{5}$

6.  $5 \times \frac{2}{3}$

Write the product in simplest form.

7.  $\frac{3}{7} \times \frac{4}{5} =$  \_\_\_\_\_

8.  $\frac{3}{10} \times \frac{3}{10} =$  \_\_\_\_\_

9.  $10 \times \frac{2}{5} =$  \_\_\_\_\_

10.  $3 \times \frac{4}{5} =$  \_\_\_\_\_

11.  $5 \times \frac{1}{3} =$  \_\_\_\_\_

12.  $\frac{3}{5} \times \frac{2}{7} =$  \_\_\_\_\_

13.  $1\frac{2}{3} \times 2\frac{1}{2} =$  \_\_\_\_\_

14.  $\frac{3}{8} \times 1\frac{3}{4} =$  \_\_\_\_\_

15.  $2\frac{3}{4} \times 3 =$  \_\_\_\_\_

16.  $2\frac{3}{7} \times 2 =$  \_\_\_\_\_

17.  $\frac{2}{9} \times \frac{5}{9} =$  \_\_\_\_\_

18.  $\frac{1}{2} \times 6 =$  \_\_\_\_\_

19.  $9 \times \frac{1}{6} =$  \_\_\_\_\_

20.  $2\frac{1}{2} \times 3 =$  \_\_\_\_\_

21.  $6\frac{1}{4} \times 10 =$  \_\_\_\_\_

22.  $4\frac{1}{2} \times 1\frac{1}{4} =$  \_\_\_\_\_

23.  $1\frac{2}{3} \times 1\frac{2}{5} =$  \_\_\_\_\_

24.  $\frac{6}{7} \times 2\frac{1}{2} =$  \_\_\_\_\_

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7B

**BASIC SKILLS****Multiplying Fractions**

Write the product in simplest form.

1.  $3 \times \frac{4}{5} =$  \_\_\_\_\_

2.  $5 \times \frac{1}{3} =$  \_\_\_\_\_

3.  $\frac{3}{5} \times \frac{2}{7} =$  \_\_\_\_\_

4.  $\frac{2}{3} \times 8 =$  \_\_\_\_\_

5.  $\frac{4}{9} \times \frac{3}{8} =$  \_\_\_\_\_

6.  $3 \times \frac{2}{3} =$  \_\_\_\_\_

7.  $\frac{7}{8} \times \frac{3}{4} =$  \_\_\_\_\_

8.  $\frac{5}{6} \times \frac{5}{7} =$  \_\_\_\_\_

9.  $\frac{3}{10} \times \frac{4}{5} =$  \_\_\_\_\_

10.  $\frac{4}{5} \times \frac{4}{5} =$  \_\_\_\_\_

11.  $\frac{4}{9} \times \frac{3}{8} =$  \_\_\_\_\_

12.  $\frac{2}{9} \times \frac{2}{5} =$  \_\_\_\_\_

13.  $\frac{3}{8} \times \frac{6}{7} =$  \_\_\_\_\_

14.  $3 \times \frac{2}{7} =$  \_\_\_\_\_

15.  $\frac{1}{4} \times 2 =$  \_\_\_\_\_

16.  $6 \times \frac{1}{5} =$  \_\_\_\_\_

17.  $\frac{5}{12} \times \frac{3}{4} =$  \_\_\_\_\_

18.  $\frac{5}{7} \times \frac{5}{6} =$  \_\_\_\_\_

19.  $\frac{3}{4} \times \frac{7}{10} =$  \_\_\_\_\_

20.  $\frac{3}{7} \times \frac{3}{7} =$  \_\_\_\_\_

21.  $\frac{5}{6} \times \frac{3}{10} =$  \_\_\_\_\_

22.  $3\frac{1}{5} \times 2 =$  \_\_\_\_\_

23.  $5 \times 2\frac{1}{4} =$  \_\_\_\_\_

24.  $2 \times 4\frac{1}{3} =$  \_\_\_\_\_

25.  $2\frac{1}{5} \times 4 =$  \_\_\_\_\_

26.  $1\frac{1}{9} \times 6 =$  \_\_\_\_\_

27.  $6 \times 1\frac{3}{7} =$  \_\_\_\_\_

28.  $\frac{3}{5} \times 2\frac{3}{4} =$  \_\_\_\_\_

29.  $3\frac{1}{3} \times 1\frac{1}{4} =$  \_\_\_\_\_

30.  $\frac{6}{7} \times 2\frac{1}{2} =$  \_\_\_\_\_

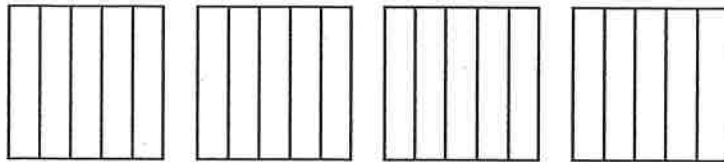
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8A

**BASIC SKILLS****Dividing Fractions**

1. How many fifths are in four?

$4 \div \frac{1}{5} = \underline{\hspace{2cm}}$



Draw a model to find the quotient.

2.  $5 \div \frac{1}{6}$

3.  $3 \div \frac{1}{8}$

4.  $5 \div \frac{1}{5}$

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

6.  $4 \div \frac{1}{5}$

7.  $4 \div \frac{1}{6}$

Write the quotient in simplest form.

8.  $2 \div \frac{1}{6} = \underline{\hspace{2cm}}$

9.  $4 \div \frac{1}{2} = \underline{\hspace{2cm}}$

10.  $3 \div \frac{1}{6} = \underline{\hspace{2cm}}$

11.  $6 \div \frac{1}{4} = \underline{\hspace{2cm}}$

12.  $2 \div \frac{1}{2} = \underline{\hspace{2cm}}$

13.  $4 \div \frac{1}{5} = \underline{\hspace{2cm}}$

14.  $5 \div \frac{1}{2} = \underline{\hspace{2cm}}$

15.  $3 \div \frac{1}{3} = \underline{\hspace{2cm}}$

16.  $2 \div \frac{1}{6} = \underline{\hspace{2cm}}$

17.  $12 \div \frac{1}{3} = \underline{\hspace{2cm}}$

18.  $16 \div \frac{1}{3} = \underline{\hspace{2cm}}$

19.  $8 \div \frac{1}{4} = \underline{\hspace{2cm}}$

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**8B****BASIC SKILLS****Dividing Fractions**

Write the quotient in simplest form.

1.  $3 \div \frac{1}{3} =$  \_\_\_\_\_

2.  $2 \div \frac{1}{2} =$  \_\_\_\_\_

3.  $15 \div \frac{1}{5} =$  \_\_\_\_\_

4.  $7 \div \frac{1}{3} =$  \_\_\_\_\_

5.  $30 \div \frac{1}{2} =$  \_\_\_\_\_

6.  $14 \div \frac{2}{3} =$  \_\_\_\_\_

7.  $12 \div \frac{1}{3} =$  \_\_\_\_\_

8.  $16 \div \frac{1}{3} =$  \_\_\_\_\_

9.  $8 \div \frac{1}{4} =$  \_\_\_\_\_

10.  $8 \div \frac{7}{10} =$  \_\_\_\_\_

11.  $6 \div \frac{2}{9} =$  \_\_\_\_\_

12.  $9 \div \frac{5}{6} =$  \_\_\_\_\_

13.  $\frac{1}{2} \div \frac{2}{5} =$  \_\_\_\_\_

14.  $\frac{1}{3} \div \frac{1}{3} =$  \_\_\_\_\_

15.  $\frac{2}{5} \div \frac{1}{2} =$  \_\_\_\_\_

16.  $\frac{4}{9} \div \frac{1}{3} =$  \_\_\_\_\_

17.  $\frac{2}{7} \div \frac{1}{14} =$  \_\_\_\_\_

18.  $\frac{3}{8} \div \frac{2}{5} =$  \_\_\_\_\_

19.  $\frac{1}{2} \div \frac{4}{9} =$  \_\_\_\_\_

20.  $\frac{8}{15} \div \frac{4}{5} =$  \_\_\_\_\_

21.  $\frac{3}{11} \div \frac{1}{22} =$  \_\_\_\_\_

22.  $7\frac{3}{5} \div 5 =$  \_\_\_\_\_

23.  $2\frac{1}{2} \div 10 =$  \_\_\_\_\_

24.  $4\frac{2}{3} \div 3 =$  \_\_\_\_\_

25.  $6\frac{2}{3} \div \frac{5}{6} =$  \_\_\_\_\_

26.  $3\frac{1}{4} \div \frac{1}{2} =$  \_\_\_\_\_

27.  $5 \div 5\frac{2}{3} =$  \_\_\_\_\_

28.  $6\frac{1}{8} \div 5\frac{1}{2} =$  \_\_\_\_\_

29.  $5\frac{2}{3} \div 3\frac{5}{9} =$  \_\_\_\_\_

30.  $10\frac{1}{4} \div 2\frac{1}{3} =$  \_\_\_\_\_



## Addition

- > Find the decimal
- > Line up the decimals
- > Fill in empty spots with zero
- > Add
- > Bring down the decimal in your answer

### EXAMPLE

$$\begin{array}{r} 10.5 + 11.74 \\ + 11.74 \\ \hline 22.24 \end{array}$$

*Rewritten with decimals lined up...*

## Subtraction

- > Find the decimal
- > Line up the decimals
- > Fill in empty spots with zero
- > Subtract
- > Bring down the decimal in your answer

### EXAMPLE

$$\begin{array}{r} 12.7 - 9.23 \\ \phantom{12.}^{\text{6 10}} \\ \phantom{12.}^{\text{7 0}} \\ - 9.23 \\ \hline 3.47 \end{array}$$

*Rewritten with decimals lined up...*

## Rules of Decimals

### Multiplication

- > The number with **most digits** goes on top
- > Decimals do not have to line up
- > Multiply like normal
- > Count how many places in first number the decimal is moved over
- > Count how many places in 2nd number the decimal is moved over
- > This is how many places you move the decimal in your answer

### EXAMPLE

$$\begin{array}{r} 1.201 < 3 \text{ DECIMAL PLACES} \\ \times 25 < 2 \text{ DECIMAL PLACES} \\ \hline 6005 \\ 24020 \\ \hline 30025 < 5 \text{ DECIMAL PLACES} \end{array}$$

### Division

- > Divisor can not have a decimal
- > Move the divisor decimal so it is a whole number
- > Move the same amount of places in dividend
- > Place a decimal straight up where you write your answer, *rewrite problem*
- > Divide like normal

### EXAMPLE

DIVISOR > 0.3

$$\begin{array}{r} 3 \overline{) 14.1} \\ \underline{12} \phantom{0} \\ 21 \\ \underline{21} \\ 0 \end{array}$$

4.7

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10A

**BASIC SKILLS****Adding and Subtracting Decimals**

Estimate the sum or difference.

1.  $3.2 + 4.3 =$  \_\_\_\_\_

2.  $9.1 - 1.9 =$  \_\_\_\_\_

3.  $16.3 + 2.8 =$  \_\_\_\_\_

4. 
$$\begin{array}{r} 6.2 \\ + 4.9 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 15.08 \\ + 5.70 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 0.78 \\ + 66.51 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 2.18 \\ + 62.62 \\ \hline \end{array}$$

Estimate to determine whether the sum or difference is reasonable. Write *yes* or *no*.

8. 
$$\begin{array}{r} 7.5 \\ + 9.0 \\ \hline 25.5 \end{array}$$
 \_\_\_\_\_

9. 
$$\begin{array}{r} 14.9 \\ - 10.2 \\ \hline 14.7 \end{array}$$
 \_\_\_\_\_

10. 
$$\begin{array}{r} 13.8 \\ - 8.1 \\ \hline 0.7 \end{array}$$
 \_\_\_\_\_

11. 
$$\begin{array}{r} 8.62 \\ - 7.24 \\ \hline 1.08 \end{array}$$
 \_\_\_\_\_

12. 
$$\begin{array}{r} 14.8 \\ + 6.3 \\ \hline 20.1 \end{array}$$
 \_\_\_\_\_

13. 
$$\begin{array}{r} 239.9 \\ - 103.5 \\ \hline 10.4 \end{array}$$
 \_\_\_\_\_

Find the sum or difference. Estimate to check that your answer is reasonable.

14. 
$$\begin{array}{r} 7.3 \\ + 0.2 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 6.5 \\ + 1.65 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 0.8 \\ + 0.4 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 5.39 \\ - 2.30 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 4.32 \\ - 1.97 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 5.8 \\ - 1.92 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 7.8 \\ - 3.91 \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 14.01 \\ + 0.35 \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 0.535 \\ + 2.16 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 15 \\ + 2.45 \\ \hline \end{array}$$

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10B

**BASIC SKILLS****Adding and Subtracting Decimals**

Estimate. Then find the sum.

1. 
$$\begin{array}{r} 0.5 \\ + 0.3 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 8.5 \\ + 0.31 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 4.34 \\ + 2.8 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 3.95 \\ + 0.21 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 12.45 \\ + 2.16 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 0.312 \\ + 0.82 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 35.6 \\ + 2.45 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 4.34 \\ + 2.8 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 14.34 \\ + 2.05 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 3.95 \\ + 0.246 \\ \hline \end{array}$$

11.  $0.31 + 36.513 = \underline{\hspace{2cm}}$

12.  $5.16 + 2.043 = \underline{\hspace{2cm}}$

13.  $5 + 0.6 + 1.89 = \underline{\hspace{2cm}}$

14.  $98 + 8.01 + 0.62 = \underline{\hspace{2cm}}$

15.  $0.5 + 15.05 = \underline{\hspace{2cm}}$

16.  $3 + 0.2 = \underline{\hspace{2cm}}$

Estimate. Then find the difference.

17. 
$$\begin{array}{r} 5.4 \\ - 1.3 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 76.8 \\ - 21.9 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 16 \\ - 9.32 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 86.12 \\ - 5.984 \\ \hline \end{array}$$

21. 
$$\begin{array}{r} 95 \\ - 10.2 \\ \hline \end{array}$$

22. 
$$\begin{array}{r} 86.3 \\ - 5.921 \\ \hline \end{array}$$

23. 
$$\begin{array}{r} 7 \\ - 1.9 \\ \hline \end{array}$$

24. 
$$\begin{array}{r} 5 \\ - 2.8 \\ \hline \end{array}$$

25.  $5.6 - 1.92 = \underline{\hspace{2cm}}$

26.  $7.321 - 5 = \underline{\hspace{2cm}}$

27.  $5.38 - 0.9 = \underline{\hspace{2cm}}$

28.  $86 - 4.93 = \underline{\hspace{2cm}}$

29.  $76.8 - 21.49 = \underline{\hspace{2cm}}$

30.  $7.02 - 3.199 = \underline{\hspace{2cm}}$

Name \_\_\_\_\_ Date \_\_\_\_\_

11A

**BASIC SKILLS****Multiplying Decimals**

Use an estimate to write the decimal point in the product.

$$\begin{array}{r} 1. \quad 6.27 \\ \times 4.9 \\ \hline 30723 \end{array}$$

$$\begin{array}{r} 2. \quad 5.8 \\ \times 3.7 \\ \hline 2146 \end{array}$$

$$\begin{array}{r} 3. \quad 27.8 \\ \times 3.81 \\ \hline 105918 \end{array}$$

$$\begin{array}{r} 4. \quad 432.3 \\ \times 7.6 \\ \hline 328548 \end{array}$$

Estimate the product.

$$\begin{array}{r} 5. \quad 5.72 \\ \times 3.8 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 1.5 \\ \times 8.6 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 16.2 \\ \times 9.2 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 20.8 \\ \times 6.2 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 25.9 \\ \times 4.7 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 87.2 \\ \times 8.3 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 14.9 \\ \times 6.7 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 97.2 \\ \times 6.8 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 36.6 \\ \times 1.2 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 79.2 \\ \times 2.5 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 69.8 \\ \times 2.4 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 29.7 \\ \times 6.3 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 8.91 \\ \times 3.1 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 6.5 \\ \times 4.9 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 37.0 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 97.3 \\ \times 4.2 \\ \hline \end{array}$$

$$21. \quad 26.6 \times 1.3 = \underline{\hspace{2cm}}$$

$$22. \quad 0.79 \times 80.7 = \underline{\hspace{2cm}}$$

$$23. \quad 0.66 \times 0.4 = \underline{\hspace{2cm}}$$

$$24. \quad 27.3 \times 0.09 = \underline{\hspace{2cm}}$$

Name \_\_\_\_\_ Date \_\_\_\_\_

**11B BASIC SKILLS****Multiplying Decimals**

Write the factors as fractions. Then multiply the fractions. Rewrite the product as a decimal.

1.  $0.2 \times 0.4$

$$\frac{2}{10} \times \frac{4}{10} = \frac{8}{100} = 0.08$$

2.  $0.31 \times 0.7$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad} = \underline{\quad}$$

3.  $0.27 \times 0.05$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad} = \underline{\quad}$$

4. 
$$\begin{array}{r} 8.6 \\ \times 6.2 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 0.7 \\ \times .002 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 3.4 \\ \times 5.8 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 5.8 \\ \times 2.9 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 1.9 \\ \times 7.3 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} .17 \\ \times .005 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 7.15 \\ \times 3.8 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 69.2 \\ \times 4.3 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 80.3 \\ \times 9.1 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 7.0 \\ \times 5.9 \\ \hline \end{array}$$

**Estimate. Then find the product.**

14.  $2.9 \times .003 = \underline{\quad}$

15.  $8.6 \times 9.8 = \underline{\quad}$

16.  $9.2 \times 1.6 = \underline{\quad}$

17.  $6.1 \times 2.4 = \underline{\quad}$

Name \_\_\_\_\_ Date \_\_\_\_\_

12A

**BASIC SKILLS****Dividing Decimals**

Use compatible numbers to estimate the quotient.

1.  $8 \overline{)58.3}$

2.  $5 \overline{)2.04}$

3.  $7 \overline{)50.34}$

4.  $6 \overline{)7.35}$

5.  $12 \overline{).492}$

6.  $4 \overline{)1.73}$

7.  $4 \overline{)1.283}$

8.  $31 \overline{)62.9}$

Find the quotient.

9.  $6 \overline{)19.44}$

10.  $5 \overline{)21.8}$

11.  $3 \overline{)12.45}$

12.  $4 \overline{)94.4}$

13.  $5 \overline{)31.9}$

14.  $7 \overline{)25.06}$

15.  $8 \overline{).096}$

16.  $5 \overline{)39.3}$

17.  $5 \overline{)26.5}$

18.  $2 \overline{)4.298}$

19.  $3 \overline{)1.023}$

20.  $9 \overline{)19.89}$

21.  $16.5 \div 10 = \underline{\hspace{2cm}}$

22.  $3.294 \div 1000 = \underline{\hspace{2cm}}$

23.  $29.85 \div 100 = \underline{\hspace{2cm}}$

24.  $73.4 \div 10 = \underline{\hspace{2cm}}$

25.  $0.43 \div 10 = \underline{\hspace{2cm}}$

26.  $27.14 \div 10 = \underline{\hspace{2cm}}$

Name \_\_\_\_\_ Date \_\_\_\_\_

12B

**BASIC SKILLS****Dividing Decimals**

Find the quotient.

1.  $5 \overline{)71.7}$

2.  $2 \overline{)9.15}$

3.  $4 \overline{)1.4}$

4.  $6 \overline{)3.3}$

5.  $8 \overline{)83.6}$

6.  $5 \overline{)13.7}$

7.  $2 \overline{)7.9}$

8.  $6 \overline{)5.82}$

9.  $9 \overline{)20.25}$

10.  $11 \overline{)3.41}$

11.  $15 \overline{)71.25}$

12.  $32 \overline{)81.6}$

Find the quotient. Remember to place the dollar sign in your answer.

13.  $6 \overline{)\$4.2}$

14.  $5 \overline{)\$.65}$

15.  $9 \overline{)\$7.02}$

16.  $4 \overline{)\$2.56}$

17.  $12 \overline{)\$24.12}$

18.  $9 \overline{)\$123.30}$

19.  $3 \overline{)\$45.06}$

20.  $7 \overline{)\$620.20}$

21.  $38 \overline{)\$22.42}$

22.  $5 \overline{)\$62.15}$

23.  $4 \overline{)\$34.56}$

24.  $25 \overline{)\$23.75}$

Name \_\_\_\_\_

## Divide Decimals

You can multiply the dividend and the divisor by the same power of 10 to make the divisor a whole number. As long as you multiply both the dividend and the divisor by the same power of 10, the quotient stays the same.

**Example 1: Divide.**  $0.84 \div 0.07$

Multiply the dividend, 0.84, and the divisor, 0.07, by the power of 10 that makes the divisor a whole number.

$$\begin{array}{r} 0.84 \div 0.07 = ? \\ \times 100 \quad \times 100 \\ \hline 84 \div 7 = 12 \end{array}$$

Since  $84 \div 7 = 12$ , you know that  $0.84 \div 0.07 = \underline{12}$ .

**Example 2: Divide.**  $4.42 \div 3.4$

Multiply both the dividend and the divisor by 10 to make the divisor a whole number.

$$3.4 \overline{)4.42} \xrightarrow{\text{Multiply 3.4 and 4.42 both by 10}} 34 \overline{)44.2}$$

Divide as you would whole numbers. Place the decimal point in the quotient, above the decimal point in the dividend.

$$\begin{array}{r} 1.3 \\ 34 \overline{)44.2} \\ \underline{-34} \phantom{.2} \\ 102 \\ \underline{-102} \\ 0 \end{array}$$

So,  $4.42 \div 3.4 = \underline{1.3}$ .

Copy and complete the pattern.

1.  $54 \div 6 = \underline{\hspace{2cm}}$

2.  $184 \div 23 = \underline{\hspace{2cm}}$

3.  $138 \div 2 = \underline{\hspace{2cm}}$

$5.4 \div \underline{\hspace{2cm}} = 9$

$18.4 \div \underline{\hspace{2cm}} = 8$

$13.8 \div \underline{\hspace{2cm}} = 69$

$\underline{\hspace{2cm}} \div 0.06 = 9$

$\underline{\hspace{2cm}} \div 0.23 = 8$

$\underline{\hspace{2cm}} \div 0.02 = 69$

Divide.

4.  $1.4 \overline{)9.8}$

5.  $0.3 \overline{)0.6}$

6.  $3.64 \div 1.3$



## Write Zeros in the Dividend

When there are not enough digits in the dividend to complete the division, you can write zeros to the right of the last digit in a decimal number in the dividend. Writing zeros to the right of the last digit will not change the value of the dividend or the quotient.

Divide.  $5.2 \div 8$

**Step 1** Divide as you would whole numbers. Place the decimal point in the quotient above the decimal point in the dividend.

$$\begin{array}{r} 0.6 \\ 8 \overline{)5.2} \\ \underline{-48} \\ 4 \end{array}$$

The decimal point in the quotient is directly above the decimal point in the dividend.

**Step 2** The difference is less than the divisor. Write a 0 in the dividend to the right of the last digit and continue to divide.

$$\begin{array}{r} 0.65 \\ 8 \overline{)5.20} \\ \underline{-48} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

The difference, 4, is less than the divisor.

Write a 0 in the dividend to the right of the last digit. Then continue to divide.

So,  $5.2 \div 8 = \underline{0.65}$

Write the quotient with the decimal point placed correctly.

1.  $3 \div 0.4 = 75$

2.  $25.2 \div 8 = 315$

3.  $60 \div 25 = 24$

4.  $8.28 \div 0.72 = 115$

Divide.

5.  $6 \overline{)43.5}$

6.  $1.4 \overline{)7.7}$

7.  $30 \overline{)72}$

8.  $0.18 \overline{)0.63}$