

## Summer Math Packet

Welcome to your Summer Math Packet. Over the summer months, students tend to lose at least one month's worth of information due to "not using their brains" (at least not the same way they do during school time). Who wants to have to relearn everything? What a waste of time!! One way to reduce that loss is by keeping your brain active – hence, this packet.

This packet has been designed to review skills you have already learned and will need to succeed in math next year. Each grade has their own packet, this one was designed for you, the student going into Course 2 Math (grade 6).

For the most part, there are 10-12 pages in each packet – one for each week of summer. If you want to take a break the first week of summer, do so, just make sure you do an extra page another week. The same thing goes for any weeks of vacation you may take. Most, if not all of the pages, have information about how to do the math on the page, so that you and your parents can figure it out if you are having trouble. If you still can't figure it out, try [www.khanacademy.org](http://www.khanacademy.org). It should not take more than 30 minutes to do any of these pages each week.

This IS REQUIRED – it will go into the grade book as a grade based on what you have complete. All those who complete it will also receive a treat in September, in recognition of your hard work. Please do not lose this, but if you do, it can be found on the school website.

Please be ready to turn this in to Mrs. Jackson by the second day of school.

Enjoy your summer!

Keep thinkin'!

Mrs. Jackson (Mrs. J)



# Review 5

## Adding and Subtracting Decimals

Add  $3.25 + 12.6 + 18.93$ .

|                 |               |   |           |
|-----------------|---------------|---|-----------|
| First estimate. | 3.25          | → | 3         |
|                 | 12.6          | → | 13        |
|                 | <u>+18.93</u> | → | <u>19</u> |
|                 |               |   | 35        |

Then follow these steps.

- ① Line up the decimal points. Write in any needed zeros.
- ② Add as you would add whole numbers. Regroup when needed.
- ③ Place the decimal point.

$$\begin{array}{r} 3.25 \\ 12.60 \\ +18.93 \\ \hline \end{array}$$

$$\begin{array}{r} \phantom{0}^1 3.25 \\ 12.60 \\ +18.93 \\ \hline 34.78 \end{array}$$

$$\begin{array}{r} 3.25 \\ 12.60 \\ +18.93 \\ \hline 34.78 \end{array} \leftarrow \text{Compare to your estimate.}$$

To subtract decimals, follow similar steps. Work from right to left and regroup when needed. Place the decimal point to complete the subtraction.

**First estimate and then find each sum.**

- |                |                |                  |
|----------------|----------------|------------------|
| 1. $0.9 + 6.7$ | 2. $3.1 + 9.4$ | 3. $4.88 + 8.19$ |
| Estimate _____ | Estimate _____ | Estimate _____   |
| Sum _____      | Sum _____      | Sum _____        |

**Use mental math to find each sum.**

- |                   |                      |                          |
|-------------------|----------------------|--------------------------|
| 4. $14.05 + 9.75$ | 5. $6 + 0.22 + 0.78$ | 6. $9.104 + 5.01 + 7.99$ |
| _____             | _____                | _____                    |

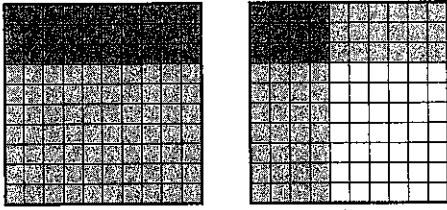
**First estimate and then find each difference.**

- |                     |                    |                     |
|---------------------|--------------------|---------------------|
| 7. $8.5 - 4.2$      | 8. $7.2 - 3.05$    | 9. $5.07 - 2.8$     |
| Estimate _____      | Estimate _____     | Estimate _____      |
| Difference _____    | Difference _____   | Difference _____    |
| 10. $6.347 - 2.986$ | 11. $14.2 - 9.86$  | 12. $13.45 - 5.001$ |
| _____               | _____              | _____               |
| 13. $22.7 - 12.06$  | 14. $16.1 - 10.88$ | 15. $1.79 - 0.879$  |
| _____               | _____              | _____               |

# Review 7

## Multiplying Decimals

Multiply  $0.3 \times 1.4$ . This drawing can help you find  $0.3 \times 1.4$ .



Each small square is 1 hundredth or 0.01.  
Each column or row is 10 hundredths or 1 tenth or 0.1.

- ① Shade 3 rows across to represent 0.3.
- ② Shade 14 columns down to represent 1.4.
- ③ The area where the shading overlaps is 42 hundredths or 0.42.

$$0.3 \times 1.4 = 0.42$$

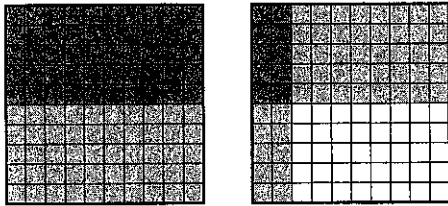
Compare the result from the model to the result of multiplying the factors.

$$\begin{array}{r}
 0.3 \quad \leftarrow 1 \text{ decimal place} \\
 \times 1.4 \quad \leftarrow +1 \text{ decimal place} \\
 \hline
 12 \\
 + 030 \\
 \hline
 0.42 \quad \leftarrow 2 \text{ decimal places}
 \end{array}$$

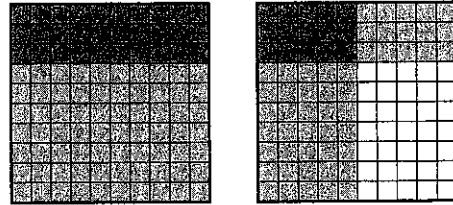
When multiplying decimals, first multiply the factors as though they are whole numbers. Then add the number of decimal places in each factor to find the number of decimal places in the product.

Write a multiplication statement to describe each model.

1.



2.



For each product place the decimal point in the correct place.

3. 
$$\begin{array}{r}
 0.9 \\
 \times 2.8 \\
 \hline
 252
 \end{array}$$

4. 
$$\begin{array}{r}
 3.1 \\
 \times 77 \\
 \hline
 2387
 \end{array}$$

5. 
$$\begin{array}{r}
 6.22 \\
 \times 8 \\
 \hline
 4976
 \end{array}$$

6. 
$$\begin{array}{r}
 19.6 \\
 \times 2.03 \\
 \hline
 39788
 \end{array}$$

Find each product.

7. 
$$\begin{array}{r}
 1.6 \\
 \times 3.7 \\
 \hline
 \end{array}$$

8. 
$$\begin{array}{r}
 8.12 \\
 \times 59 \\
 \hline
 \end{array}$$

9. 
$$\begin{array}{r}
 12.3 \\
 \times 6.1 \\
 \hline
 \end{array}$$

10. 
$$\begin{array}{r}
 5.9 \\
 \times 1.2 \\
 \hline
 \end{array}$$

11. 
$$\begin{array}{r}
 23.4 \\
 \times 5.2 \\
 \hline
 \end{array}$$

12. 
$$\begin{array}{r}
 4.8 \\
 \times 42 \\
 \hline
 \end{array}$$

13. 
$$\begin{array}{r}
 9.2 \\
 \times 12.4 \\
 \hline
 \end{array}$$

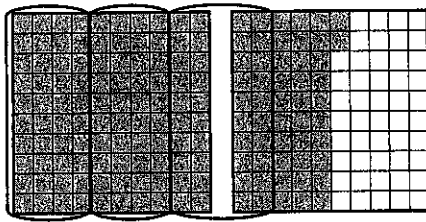
14. 
$$\begin{array}{r}
 120 \\
 \times 7.6 \\
 \hline
 \end{array}$$

15. 
$$\begin{array}{r}
 3.15 \\
 \times 2.3 \\
 \hline
 \end{array}$$

# Review 9

Find the quotient  $1.52 \div 0.4$ .

You can use a model to estimate the quotient.



← Draw a model for 1.52.

← Since each square is 0.01, 40 squares represent 0.4. Circle groups of 0.4.

There are close to four groups of 0.4. The quotient is about 4.

- ① Multiply the dividend and divisor by 10 so that the divisor is a whole number.
- ② Divide as with whole numbers.
- ③ Place the decimal point in the quotient above its place in the dividend. Insert zeroes as placeholders if necessary.

$$\begin{array}{r} 0.4 \overline{)1.52} \\ \underline{0.4} \phantom{00} \\ 1.12 \\ \underline{0.8} \phantom{00} \\ 0.32 \\ \underline{0.32} \\ 0 \end{array}$$

$$\begin{array}{r} 38 \\ 4 \overline{)152} \\ \underline{12} \phantom{0} \\ 32 \\ \underline{32} \\ 0 \end{array}$$

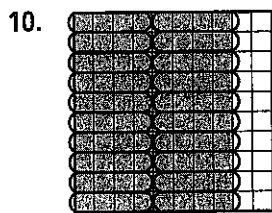
$$\begin{array}{r} 3.8 \\ 4 \overline{)15.2} \\ \underline{12} \phantom{00} \\ 32 \\ \underline{32} \\ 0 \end{array}$$

3.8 is close to 4.

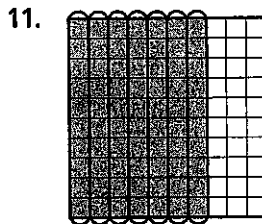
Estimate, then find each quotient.

- |                               |                                |                                |
|-------------------------------|--------------------------------|--------------------------------|
| 1. $3 \overline{)1.35}$ _____ | 2. $4 \overline{)2.68}$ _____  | 3. $8.4 \div 6$ _____          |
| 4. $8 \overline{)27}$ _____   | 5. $12.96 \div 5$ _____        | 6. $5 \overline{)11.30}$ _____ |
| 7. $0.4 \div 16$ _____        | 8. $9 \overline{)13.86}$ _____ | 9. $20 \overline{)47.6}$ _____ |

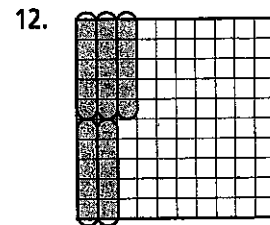
Use the model to find each quotient.



$0.8 \div \underline{\hspace{2cm}} = 20$



$0.70 \div 0.1 = \underline{\hspace{2cm}}$



$\underline{\hspace{2cm}} \div 0.05 = \underline{\hspace{2cm}}$

Find each quotient.

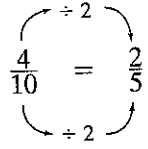
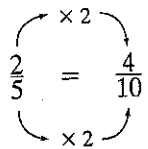
- |                                   |                                   |                                   |
|-----------------------------------|-----------------------------------|-----------------------------------|
| 13. $3 \div 0.12$ _____           | 14. $1.5 \overline{)84}$ _____    | 15. $78 \div 15.6$ _____          |
| 16. $6.4 \overline{)23.68}$ _____ | 17. $7.28 \div 9.1$ _____         | 18. $3 \overline{)4.11}$ _____    |
| 19. $0.9 \overline{)1.35}$ _____  | 20. $0.5 \overline{)0.935}$ _____ | 21. $1.9 \overline{)19.95}$ _____ |

# Review 23

## Equivalent Fractions

*Equivalent fractions* are fractions that name the same amount.

To find equivalent fractions, multiply or divide the numerator and denominator by the same number.



So,  $\frac{2}{5} = \frac{4}{10}$ .

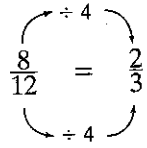
To write a fraction in *simplest form*, divide the numerator and denominator by their greatest common factor.

*Example:* Write  $\frac{8}{12}$  in simplest form.

- ① Find the greatest common factor.

8: 1, 2, **4**, 8  
 12: 1, 2, 3, **4**, 6, 12  
 The GCF is 4.

- ② Divide the numerator and denominator by the GCF.



$\frac{8}{12}$  in simplest form is  $\frac{2}{3}$ .

Write two fractions equivalent to each fraction.

- |                         |                        |                        |
|-------------------------|------------------------|------------------------|
| 1. $\frac{5}{6}$ _____  | 2. $\frac{3}{7}$ _____ | 3. $\frac{7}{8}$ _____ |
| 4. $\frac{3}{11}$ _____ | 5. $\frac{3}{6}$ _____ | 6. $\frac{1}{5}$ _____ |

State whether each fraction is in simplest form. If it is not, write it in simplest form.

- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| 7. $\frac{12}{15}$ _____  | 8. $\frac{8}{15}$ _____   | 9. $\frac{9}{21}$ _____   |
| 10. $\frac{15}{22}$ _____ | 11. $\frac{14}{30}$ _____ | 12. $\frac{25}{70}$ _____ |

Write each fraction in simplest form.

- |                           |                             |                            |
|---------------------------|-----------------------------|----------------------------|
| 13. $\frac{12}{24}$ _____ | 14. $\frac{10}{200}$ _____  | 15. $\frac{56}{64}$ _____  |
| 16. $\frac{3}{9}$ _____   | 17. $\frac{130}{170}$ _____ | 18. $\frac{12}{16}$ _____  |
| 19. $\frac{7}{49}$ _____  | 20. $\frac{22}{33}$ _____   | 21. $\frac{30}{225}$ _____ |

22. There are 420 girls out of 1,980 people attending a state fair. In simplest form, what fraction of the people attending are girls?
- \_\_\_\_\_

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# Review 24

## Mixed Numbers and Improper Fractions

To write a mixed number as an *improper fraction*:

- ① Multiply the whole number by the denominator.
- ② Add this product to the numerator.
- ③ Write this sum over the denominator.

$$\begin{array}{l} \textcircled{2} \quad \textcircled{3} \\ \begin{array}{c} \curvearrowright \\ 3 \times 8 \\ \curvearrowleft \end{array} = \frac{29}{8} \\ \textcircled{1} \end{array}$$

To write an improper fraction as a *mixed number*:

- ① Divide the numerator by the denominator.  $\frac{20}{8} = 2$  remainder 4
- ② Write the remainder over the denominator.  $= 2\frac{4}{8}$
- ③ Simplify, if possible.  $= 2\frac{1}{2}$

$$\frac{20}{8} = 2\frac{1}{2}$$

Write each mixed number as an improper fraction.

- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| 1. $2\frac{2}{7}$ _____  | 2. $5\frac{3}{4}$ _____  | 3. $6\frac{1}{2}$ _____  |
| 4. $6\frac{5}{8}$ _____  | 5. $3\frac{4}{10}$ _____ | 6. $4\frac{3}{5}$ _____  |
| 7. $9\frac{1}{3}$ _____  | 8. $4\frac{4}{5}$ _____  | 9. $1\frac{7}{8}$ _____  |
| 10. $3\frac{3}{8}$ _____ | 11. $2\frac{3}{7}$ _____ | 12. $8\frac{1}{6}$ _____ |

On a separate sheet of paper, draw a model of a 4-inch ruler marked off in eighths. Find and label each measurement on your ruler.

- |                    |                    |                    |
|--------------------|--------------------|--------------------|
| 13. $3\frac{5}{8}$ | 14. $2\frac{6}{8}$ | 15. $3\frac{1}{2}$ |
| 16. $1\frac{3}{4}$ | 17. $2\frac{1}{2}$ | 18. $3\frac{1}{4}$ |

Write each improper fraction as a mixed number in simplest form.

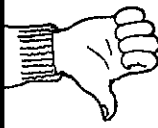
- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| 19. $\frac{9}{8}$ _____  | 20. $\frac{7}{2}$ _____  | 21. $\frac{12}{5}$ _____ |
| 22. $\frac{8}{3}$ _____  | 23. $\frac{14}{8}$ _____ | 24. $\frac{6}{5}$ _____  |
| 25. $\frac{20}{3}$ _____ | 26. $\frac{17}{5}$ _____ | 27. $\frac{18}{4}$ _____ |
| 28. $\frac{9}{5}$ _____  | 29. $\frac{29}{8}$ _____ | 30. $\frac{24}{9}$ _____ |

Name \_\_\_\_\_

# Adding & Subtracting Fractions

~~$$\frac{5}{9} - \frac{1}{6} = \frac{4}{3}$$~~


**Wrong!**



$$\frac{5}{9} - \frac{1}{6} =$$

$$\frac{5 \times 2 = 10}{9 \times 2 = 18} \quad \frac{1 \times 3 = 3}{6 \times 3 = 18}$$

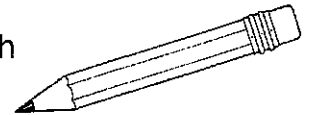
$$\frac{10}{18} - \frac{3}{18} = \frac{7}{18}$$



**Right!**

- Remember**
1. Fractions must have common denominators before you can add or subtract them.
  2. Add or subtract the numerator. Leave the common denominator the same.

Add or subtract. Reduce the answers to lowest terms. Draw lines to match each addition problem to the subtraction problem with the same answer.



- |  |   |
|--|---|
| <p>1. <math>\frac{3}{4} + \frac{1}{2} =</math> _____</p> <p>2. <math>\frac{1}{4} + \frac{2}{5} =</math> _____</p> <p>3. <math>\frac{1}{6} + \frac{1}{4} =</math> _____</p> <p>4. <math>\frac{1}{9} + \frac{6}{18} =</math> _____</p> <p>5. <math>\frac{3}{10} + \frac{2}{5} =</math> _____</p> <p>6. <math>\frac{1}{4} + \frac{2}{7} =</math> _____</p> <p>7. <math>\frac{2}{3} + \frac{5}{12} =</math> _____</p> <p>8. <math>\frac{1}{2} + \frac{1}{3} =</math> _____</p> <p>9. <math>\frac{1}{12} + \frac{3}{8} =</math> _____</p> <p>10. <math>\frac{1}{3} + \frac{3}{5} =</math> _____</p> | <p>• • 11. <math>\frac{9}{10} - \frac{1}{4} =</math> _____</p> <p>• • 12. <math>\frac{7}{9} - \frac{1}{3} =</math> _____</p> <p>• • 13. <math>\frac{27}{28} - \frac{3}{7} =</math> _____</p> <p>• • 14. <math>2 - \frac{6}{8} =</math> _____</p> <p>• • 15. <math>\frac{2}{3} - \frac{2}{8} =</math> _____</p> <p>• • 16. <math>\frac{5}{8} - \frac{1}{6} =</math> _____</p> <p>• • 17. <math>\frac{7}{4} - \frac{4}{6} =</math> _____</p> <p>• • 18. <math>\frac{7}{8} - \frac{7}{40} =</math> _____</p> <p>• • 19. <math>\frac{47}{45} - \frac{1}{9} =</math> _____</p> <p>• • 20. <math>\frac{17}{18} - \frac{1}{9} =</math> _____</p> |
|--|---|

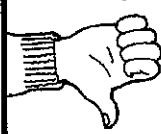


Name \_\_\_\_\_

# Multiplying Fractions

$$3 \times \frac{4}{7} = \frac{12}{21}$$

**Wrong!**



**Right!**

$$3 \times \frac{4}{7} = \frac{3}{1} \times \frac{4}{7} = \frac{12}{7}$$

## Remember

1. A whole number has 1 as its denominator.
2. Multiply straight across—numerator times numerator and denominator times denominator.
3. Reduce fractions before multiplying or at the end.

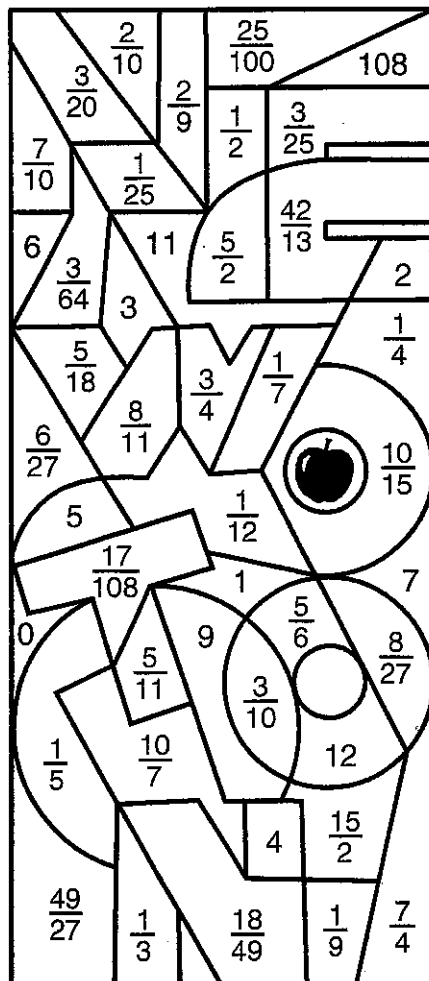
$$3 = \frac{3}{1}$$

$$\frac{6}{5} \times \frac{5}{9} = \frac{30}{45} = \frac{2}{3}$$

$$\frac{\cancel{6}^2}{\cancel{5}_1} \times \frac{\cancel{5}^1}{\cancel{9}_3} = \frac{2}{3}$$

Multiply the fractions. Write the answers in lowest terms. Shade the answers to find the name of a famous mathematician and scientist.

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



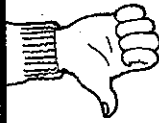
11.  $\frac{9}{10} \times \frac{1}{4} \times \frac{2}{3} =$  \_\_\_\_\_
12.  $\frac{3}{5} \times \frac{8}{3} \times \frac{15}{32} =$  \_\_\_\_\_
13.  $\frac{1}{3} \times \frac{4}{9} \times \frac{27}{28} =$  \_\_\_\_\_
14.  $\frac{2}{6} \times \frac{20}{3} \times \frac{9}{5} =$  \_\_\_\_\_
15.  $\frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} =$  \_\_\_\_\_
16.  $\frac{5}{8} \times 2 \times \frac{4}{11} =$  \_\_\_\_\_
17.  $4 \times \frac{3}{4} \times 4 =$  \_\_\_\_\_
18.  $\frac{7}{8} \times \frac{8}{9} \times \frac{9}{10} =$  \_\_\_\_\_
19.  $\frac{1}{9} \times \frac{17}{18} \times \frac{3}{2} =$  \_\_\_\_\_
20.  $\frac{22}{10} \times \frac{1}{10} \times \frac{2}{11} =$  \_\_\_\_\_

Name \_\_\_\_\_

# Dividing Fractions

$$\frac{2}{5} \div \frac{1}{20} =$$
~~$$\frac{2}{5} \times \frac{1}{20} = \frac{1}{50}$$~~

**Wrong!**



**Right!**

$$\frac{2}{5} \div \frac{1}{20} =$$

$$\frac{2}{5} \times \frac{20}{1} = \frac{8}{1} = 8$$

**Remember**

To divide by a fraction, multiply by its reciprocal.

$$\frac{3}{4} \div 6 = \frac{3}{4} \times \frac{1}{6} = \frac{1}{8}$$

Divide the fractions. Write the answers in lowest terms. Use the code to complete a rhyme your parents may have heard when they learned how to divide fractions.

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

**J**

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

**R**

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

**M**

4.  $\frac{13}{6} \div \frac{52}{3} =$  \_\_\_\_\_

**D**

5.  $\frac{9}{10} \div \frac{2}{6} =$  \_\_\_\_\_

**E**

6.  $\frac{11}{14} \div \frac{4}{7} =$  \_\_\_\_\_

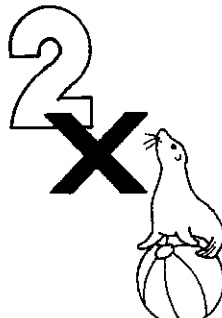
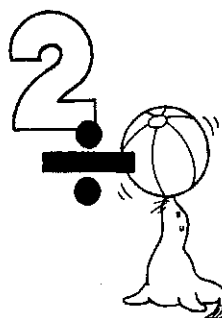
**P**

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

**T**

8.  $\frac{7}{8} \div \frac{4}{5} =$  \_\_\_\_\_

**I**



9.  $\frac{10}{11} \div \frac{5}{7} =$  \_\_\_\_\_

**V**

10.  $\frac{15}{32} \div \frac{5}{8} =$  \_\_\_\_\_

**S**

11.  $\frac{8}{9} \div \frac{2}{3} =$  \_\_\_\_\_

**T**

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

**U**

13.  $\frac{5}{3} \div \frac{10}{13} =$  \_\_\_\_\_

**L**

14.  $3 \div \frac{1}{12} =$  \_\_\_\_\_

**A**

15.  $\frac{2}{5} \div \frac{14}{15} =$  \_\_\_\_\_

**Y**

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

**N**

“OURS IS NOT TO QUESTION WHY,

”

|                |                |               |               |                 |               |                 |                 |                |               |      |               |               |     |                |                |               |                 |                |                |               |
|----------------|----------------|---------------|---------------|-----------------|---------------|-----------------|-----------------|----------------|---------------|------|---------------|---------------|-----|----------------|----------------|---------------|-----------------|----------------|----------------|---------------|
| $\frac{3}{16}$ | $\frac{5}{54}$ | $\frac{3}{4}$ | $\frac{1}{6}$ | $\frac{35}{32}$ | $\frac{2}{5}$ | $\frac{14}{11}$ | $\frac{27}{10}$ | $\frac{3}{14}$ | $\frac{4}{3}$ | $36$ | $\frac{2}{5}$ | $\frac{1}{8}$ | $6$ | $\frac{5}{54}$ | $\frac{13}{6}$ | $\frac{1}{6}$ | $\frac{35}{32}$ | $\frac{11}{8}$ | $\frac{13}{6}$ | $\frac{3}{7}$ |
|----------------|----------------|---------------|---------------|-----------------|---------------|-----------------|-----------------|----------------|---------------|------|---------------|---------------|-----|----------------|----------------|---------------|-----------------|----------------|----------------|---------------|

# Review 10

## Order of Operations

To find the value of an expression follow the *order of operations*.

**First**, do all operations inside parentheses.

**Next**, multiply and divide from left to right.

**Then**, add and subtract from left to right.

PEMDAS

*Example 1* Find the value of  $6 + (3 + 4) \times 2$ .

① Work inside parentheses.  $\rightarrow (3 + 4) = 7$

$$6 + 7 \times 2$$

② Multiply next.  $\rightarrow 7 \times 2 = 14$

$$6 + 14$$

③ Then, add.

$$6 + 14 = 20$$

*Example 2* Compare  $10 - (6 \div 2) + 1$  and  $(10 - 6) \div 2 + 1$ .

First, find the value of each expression.

|                       |                       |
|-----------------------|-----------------------|
| $10 - (6 \div 2) + 1$ | $(10 - 6) \div 2 + 1$ |
| $10 - 3 + 1$          | $4 \div 2 + 1$        |
| $7 + 1$               | $2 + 1$               |
| $8$                   | $3$                   |

Then, use  $<$ ,  $=$ , or  $>$  to compare.

$$8 > 3$$

So,

$$10 - (6 \div 2) + 1 > (10 - 6) \div 2 + 1.$$

**Find the value of each expression.**

1.  $3 + (4 + 1) \times 2$

a.  $4 + 1 = \underline{\hspace{2cm}}$

b.  $\underline{\hspace{2cm}} \times 2 = \underline{\hspace{2cm}}$

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

3.  $2 + 6 \times 3 \div 3 = \underline{\hspace{2cm}}$

5.  $7 + 5 \times 2 - 6 = \underline{\hspace{2cm}}$

2.  $24 \div (5 + 3) - 2$

a.  $5 + 3 = \underline{\hspace{2cm}}$

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

c.  $\underline{\hspace{2cm}} - 2 = \underline{\hspace{2cm}}$

4.  $(6 + 2) \times 3 \div 4 = \underline{\hspace{2cm}}$

6.  $12 \div 3 \times 5 - 6 = \underline{\hspace{2cm}}$

**Use  $<$ ,  $=$ , or  $>$  to complete each statement.**

7.  $9 + 3 \times 4 \square 9 + (3 \times 4)$

9.  $6 \div 3 + 4 \times 2 \square (6 \div 3) + 4 \times 2$

11.  $15 - (12 \div 3) \square (15 - 12) + 3$

13.  $10 + (10 \div 5) \square 10 + 10 \div 5$

8.  $(12 - 4) \times 3 \square 12 - (4 \times 3)$

10.  $3 \times (12 - 5) + 2 \square 3 \times 12 - (5 + 2)$

12.  $8 + 2 \times (9 - 7) \square 8 + (2 \times 9) - 7$

14.  $20 - (2 \times 6) \square (20 - 2) \times 6$

Name \_\_\_\_\_

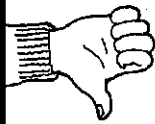
# Solving Equations

~~$$\frac{x}{3} = 12$$

$$x = \frac{12}{3}$$

$$x = 4$$~~

**Wrong!**



**Right!**

$$\frac{x}{3} = 12$$

$$\cancel{3} \cdot \frac{x}{\cancel{3}} = 12 \cdot 3$$

$$x = 36$$

## Remember

1. To solve an equation, first isolate the variable—get it alone on one side of the equation.
2. Undo the operation involving the variable by doing the opposite operation. You must do the same thing to both sides.

**Addition**  $\longleftrightarrow$  **Subtraction**

**Multiplication**  $\longleftrightarrow$  **Division**

Solve each equation. Then connect your answers in the order of the problem numbers.

1.  $x - 5 = 10$      $x =$  \_\_\_\_\_

13.  $x - 6 = 16$      $x =$  \_\_\_\_\_

2.  $3x = 6$      $x =$  \_\_\_\_\_

14.  $x + 3 = 3$      $x =$  \_\_\_\_\_

3.  $\frac{x}{10} = 4$      $x =$  \_\_\_\_\_

15.  $\frac{x}{6} = 15$      $x =$  \_\_\_\_\_

4.  $x + 4 = 9$      $x =$  \_\_\_\_\_

16.  $x - 7 = 93$      $x =$  \_\_\_\_\_

5.  $5x = 80$      $x =$  \_\_\_\_\_

17.  $\frac{x}{15} = 5$      $x =$  \_\_\_\_\_

6.  $x - 7 = 13$      $x =$  \_\_\_\_\_

18.  $25x = 150$      $x =$  \_\_\_\_\_

7.  $7x = 7$      $x =$  \_\_\_\_\_

8.  $\frac{x}{7} = 7$      $x =$  \_\_\_\_\_

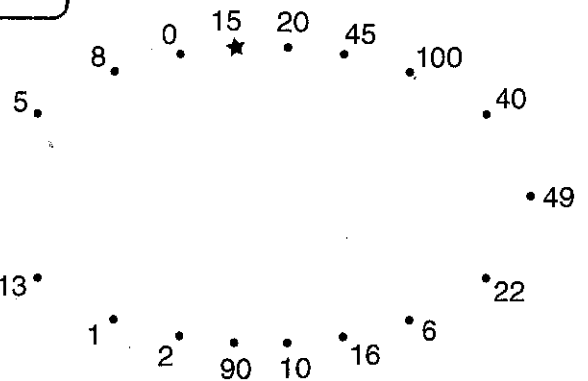
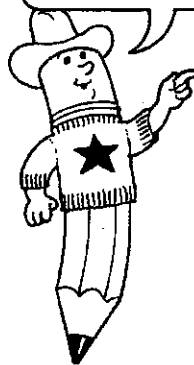
9.  $x + 15 = 23$      $x =$  \_\_\_\_\_

10.  $x - 5 = 5$      $x =$  \_\_\_\_\_

11.  $\frac{x}{9} = 5$      $x =$  \_\_\_\_\_

12.  $4x = 52$      $x =$  \_\_\_\_\_

**Begin and end at the star.**



# Review 73

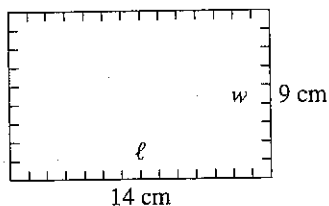
## Perimeters and Areas of Rectangles

### Perimeter

The *perimeter* of a figure is the sum of the lengths of its sides. Opposite sides of a rectangle are equal. To find the perimeter, add the 2 lengths ( $\ell$ ) and the 2 widths ( $w$ ).

$$P = \ell + \ell + w + w \text{ or } P = 2\ell + 2w$$

Find the perimeter.



$$\begin{aligned} P &= 2\ell + 2w \\ &= 2(14) + 2(9) \\ &= 28 + 18 = 46 \end{aligned}$$

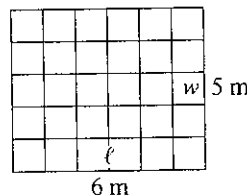
The perimeter is 46 centimeters.

### Area

The *area* of a figure is the number of square units needed to cover the figure. To find the area of a rectangle, multiply the length ( $\ell$ ) and the width ( $w$ ).

$$A = \ell \times w$$

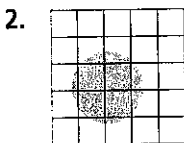
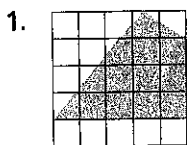
Find the area.



$$\begin{aligned} A &= \ell \times w \\ &= 6 \times 5 \\ &= 30 \end{aligned}$$

The area is 30 square meters.

Estimate the area of each figure. Each square represents 1 square inch.



Find the perimeter and area of each rectangle or square.

4.  $\ell = 12 \text{ cm}, w = 2 \text{ cm}$

\_\_\_\_\_

5.  $\ell = 9 \text{ ft}, w = 7.5 \text{ ft}$

\_\_\_\_\_

6.  $\ell = 2.5 \text{ m}, w = 2.5 \text{ m}$

\_\_\_\_\_

7.  $\ell = 5.5 \text{ in.}, w = 5.5 \text{ in.}$

\_\_\_\_\_

8.  $\ell = 6.2 \text{ in.}, w = 3.4 \text{ in.}$

\_\_\_\_\_

9.  $\ell = 4.5 \text{ ft}, w = 0.75 \text{ ft}$

\_\_\_\_\_

10.  $\ell = 8 \text{ cm}, w = 8 \text{ cm}$

\_\_\_\_\_

11.  $\ell = 10.5 \text{ m}, w = 5.2 \text{ m}$

\_\_\_\_\_

12.  $\ell = 22 \text{ in.}, w = 9 \text{ in.}$

\_\_\_\_\_

13. What is the area of a square with a perimeter of 60 meters?

\_\_\_\_\_

# Review 22

## Greatest Common Factor

You can find the *greatest common factor (GCF)* of 12 and 18 using a division ladder, factor trees, or by listing the factors. Two of these methods are shown.

- ① List the factors of 12 and 18.

12: 1, 2, 3, 4, 6, 12

18: 1, 2, 3, 6, 9, 18

- ② Find the common factors.

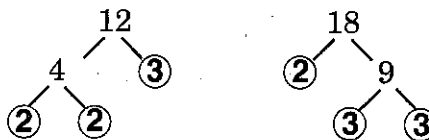
12: ①, ②, ③, 4, ⑥, 12

18: ①, ②, ③, ⑥, 9, 18

The common factors are 1, 2, 3, and 6.

- ③ Name the greatest common factor: 6.

- ① Draw factor trees.



- ② Write each prime factorization.  
Identify common factors.

12: ② × 2 × ③

18: ② × ③ × 3

- ③ Multiply the common factors.  $2 \times 3 = 6$ .  
The GCF of 12 and 18 is 6.

List the factors to find the GCF of each set of numbers.

1. 10: \_\_\_\_\_ 2. 14: \_\_\_\_\_ 3. 9: \_\_\_\_\_

15: \_\_\_\_\_ 21: \_\_\_\_\_ 21: \_\_\_\_\_

GCF: \_\_\_\_\_ GCF: \_\_\_\_\_ GCF: \_\_\_\_\_

4. 12: \_\_\_\_\_ 5. 15: \_\_\_\_\_ 6. 15: \_\_\_\_\_

13: \_\_\_\_\_ 25: \_\_\_\_\_ 18: \_\_\_\_\_

GCF: \_\_\_\_\_ GCF: \_\_\_\_\_ GCF: \_\_\_\_\_

7. 36: \_\_\_\_\_ 8. 24: \_\_\_\_\_

48: \_\_\_\_\_ 30: \_\_\_\_\_

GCF: \_\_\_\_\_ GCF: \_\_\_\_\_

Find the GCF of each set of numbers.

9. 21, 60 \_\_\_\_\_ 10. 15, 45 \_\_\_\_\_ 11. 32, 40 \_\_\_\_\_

12. 54, 60 \_\_\_\_\_ 13. 20, 50 \_\_\_\_\_ 14. 21, 63 \_\_\_\_\_

15. 36, 40 \_\_\_\_\_ 16. 48, 72 \_\_\_\_\_ 17. 90, 150 \_\_\_\_\_