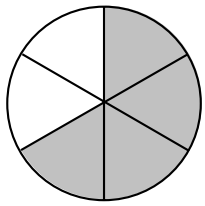
Name _____

- **Remaining Fractions**
- **Two-Step Equations**

Remaining Fractions

- If a whole has been divided into parts and we know the size of one part, then we can figure out the size of the other parts.
  - What fraction of the circle is shaded?
  - What fraction of the circle is not shaded?



Two-Step Equations

- To solve a two-step equation:
  1. Find the answer to the right-hand side of the equation.
  2. Find the number for *n*.

Example:

$2n = 8 + 6$

$2n = 14$ The answer to the right-hand side is 14.

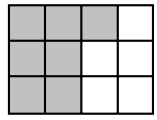
$n = 7$ The number *n* is 7.

- There is more than one way to show multiplication:

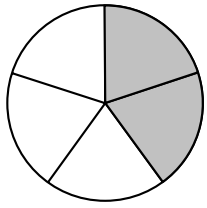
2×5	The times sign
$2n$	A number followed by a letter
$2 \cdot 5$	A raised dot

Practice:

Use fraction manipulatives for help.



1. What fraction of this rectangle is not shaded? _____



2. Two-fifths of the show was over.
What fraction of the show was left? _____

Find each missing number.

3. $5n = 7 + 8$ $n =$ _____

4. $3n = 12 + 6$ $n =$ _____

5. $4n = 4 + 4$ $n =$ _____

6. $2w = 4 \cdot 4$ $w =$ _____

Name _____

Reteaching 62

Lesson 62

- **Multiplying Three or More Factors**
- **Exponents**

Multiplying Three or More Factors

- To find the product of three numbers:
  1. Multiply any two of the numbers.
  2. Multiply that answer by the third number.
- It does not matter which numbers are multiplied first.

$1 \times 2 \times 3 =$
$2 \times 3 = 6 \times 1 = 6$

$1 \times 2 \times 3 =$
$1 \times 2 = 2;\ 2 \times 3 = 6$

Exponents

- An **exponent** is a number that shows how many times another number (the **base**) is to be used as a factor. An exponent is written above and to the right of the base.

base → 4^2 ← exponent
4^2 means 4×4.
4^2 equals 16.

- If the exponent is 2, we say "squared" for the exponent. So 4^2 is read as "four squared."
- If the exponent is 3, we say "cubed" for the exponent. So 4^3 is read as "four cubed."

Practice:

Simplify.

1. $2 \times 4 \times 6 =$ _____

2. $4 \times 5 \times 8 =$ _____

3. $6^2 =$ _____

4. $5^3 =$ _____

5. $8^2 - 6^2 =$ _____

6. $3^3 + 2^3 =$ _____

Rewrite the expression using an exponent.

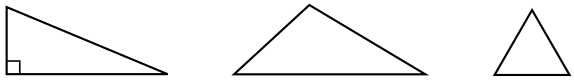
7. $3 \times 3 \times 3 \times 3 \times 3 =$ _____

8. $5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 =$ _____

• Polygons

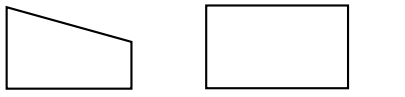
- **Polygons** are closed, flat shapes made from line segments.
- Each corner of a polygon is called a **vertex**. The plural of vertex is vertices.
- **Regular** polygons have **sides** of equal **length** and **angles** of equal measure.

Three-sided polygons are **triangles**.



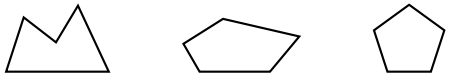
(**Regular** triangle)

Four-sided polygons are **quadrilaterals**.



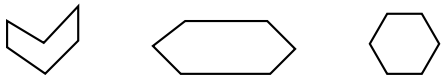
(A square is a **regular** quadrilateral.)

Five-sided polygons are **pentagons**.



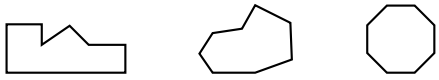
(**Regular** pentagon)

Six-sided polygons are **hexagons**.



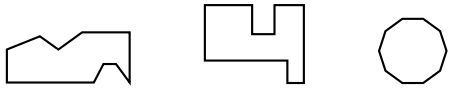
(**Regular** hexagon)

Eight-sided polygons are **octagons**.



(**Regular** octagon)

Ten-sided polygons are **decagons**.



(**Regular** decagon)

Practice:

Draw an example of each polygon.

1. regular triangle **2.** hexagon **3.** decagon

Name _____

Reteaching **64**

Lesson 64

• Division with Two-Digit Answers, Part 1

- In a division problem, the number being divided is called the **dividend**. The dividend is divided by a **divisor**. The answer is called the **quotient**.

$$\text{divisor}\overline{)\text{dividend}}^{\text{quotient}} \qquad \text{dividend} \div \text{divisor} = \text{quotient}$$

- We can break a division problem with a two-digit dividend into easier steps: divide, multiply, subtract, and "bring down".
- First, test for divisibility.

Tests for Divisibility		
A number is able to be divided by:		
2	if the last digit is even.	Already know
5	if the last digit is 0 or 5.	Already know
10	if the last digit is 0.	Already know
3	if the sum of the digits can be divided by 3.	New

Example: 96 can be divided by 3 with no remainder because
$9 + 6 = 15$ and 15 is a multiple of 3.

Practice:

Practice the division steps to solve these problems.

1. $2\overline{)54}$

2. $5\overline{)65}$

3. $3\overline{)75}$

4. $7\overline{)91}$

5. $6\overline{)84}$

6. $8\overline{)96}$

7. $3\overline{)81}$

8. $4\overline{)76}$

9. Which of these numbers can be divided by 3 with no remainder? _____

A 46 **B** 72 **C** 53 **D** 61

How do you know? *The sum of* _____ *and* _____ *is 9, which is a multiple of 3.*

Name _____

• Division with Two-Digit Answers, Part 2

- The numbers in a division problem are named the **divisor**, **dividend**, and **quotient**.

$$\begin{array}{rrl} & 16 & \leftarrow \text{quotient} \\ \text{divisor} \rightarrow & 4\overline{)64} & \leftarrow \text{dividend} \end{array}$$

- First, test for divisibility.

Tests for Divisibility		
A number can be divided by:		
2	if the last digit is even.	Already know
5	if the last digit is 0 or 5.	
10	if the last digit is 0.	
3	if the sum of the digits can be divided by 3.	
9	if the sum of the digits can be divided by 9.	New

- To divide, follow the division steps (divide, multiply, subtract, "bring down") for each place in the dividend. This way of dividing is called **long division**.

  Start with the first digit.

  If the digit cannot be divided, use zero as a placeholder in the quotient.

  Place a digit in the quotient above each digit in the dividend.

Practice:

In the division fact $28 \div 7 = 4$,

1. What number is the divisor? _____

2. What number is the quotient? _____

3. What number is the dividend? _____

Divide.

4. $4\overline{)156}$ (with 0 above the 5)

5. $6\overline{)156}$ (with 0 above the 5)

6. $4\overline{)204}$ (with 0 above the 0)

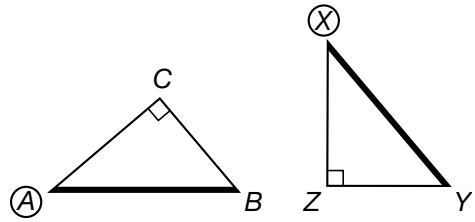
7. $3\overline{)204}$ (with 0 above the 0)

Name _____

• Similar and Congruent Figures

- If two figures are **congruent**, their corresponding parts (angles and sides) match exactly.

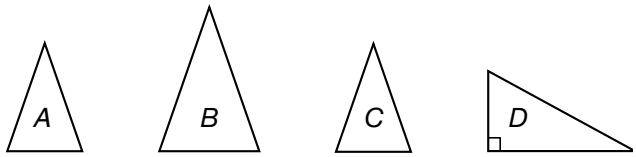
Example: Triangle ABC and triangle XYZ are congruent.



$\angle A$ corresponds to $\angle X$

$\overline{AB}$ corresponds to $\overline{XY}$

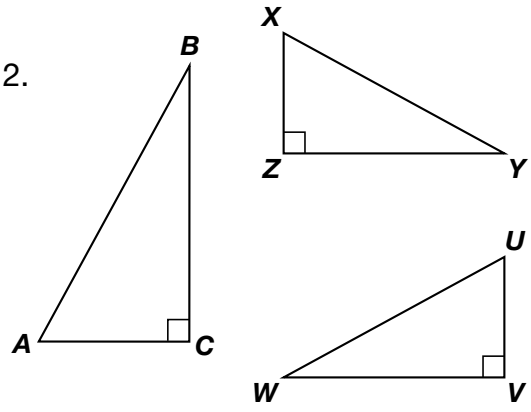
- If two figures are **similar**, they have the same shape but not necessarily the same size.
- Similar figures have equal, matching angles.



Triangles A, B, and C are similar.
Triangles A and C are congruent.
Triangle D is not similar or congruent to triangle A, B, or C.

Practice:

Refer to the triangles at right for problems 1 and 2.



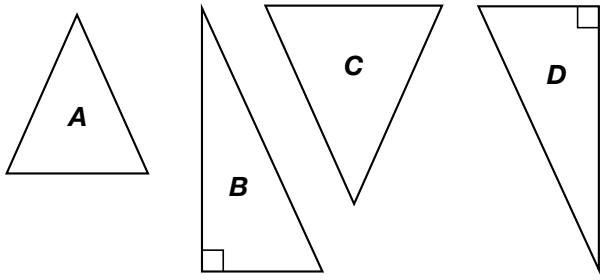
1. Which of the triangles are similar?

_____

2. Which of the triangles are congruent?

_____

Refer to the triangles at right for problems 3 and 4.



3. Which of the triangles are similar?

_____

4. Which of the triangles are congruent?

_____

• Multiplying by Multiples of 10

- To multiply a whole number by 10, just attach a zero after the number.

$$23 \times 10 = 230 \qquad 48 \times 10 = 480$$

- One way to multiply a whole number or a decimal number by a multiple of 10 is to use **offset multiplication**.
  1. Write the multiple of 10 as the bottom number.
  2. Let the zero "hang out" ("offset" to the right).
  3. Copy the zero into the answer.
  4. Multiply.

$$\begin{array}{r} 42 \\ \times\ 20 \\ \hline \end{array} \leftarrow \text{zero "hangs out" to the right} \qquad \begin{array}{r} 42 \\ \times\ 20 \\ \hline 0 \end{array} \qquad \begin{array}{r} 42 \\ \times\ 20 \\ \hline 840 \end{array}$$

- When multiplying a money amount by a multiple of 10, put two decimal places in the answer.

$$\begin{array}{r} \$1.34 \\ \times\ \ 20 \\ \hline \$26.80 \end{array}$$

Practice:

Multiply. Remember to write the dollar sign in money problems.

1. $65 \times 10 =$ _____

2. $10 \times 41 =$ _____

3. $10 \times 78¢ =$ _____

4.
$$\begin{array}{r} 57 \\ \times\ 20 \\ \hline \end{array}$$

5.
$$\begin{array}{r} \$2.93 \\ \times\ \ 30 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 74 \\ \times\ 40 \\ \hline \end{array}$$

7. Write 16×40 as a product of 10 and two other factors. Then multiply.

_____ × _____ × 10 = _____

Name _____

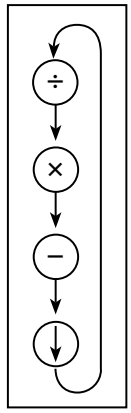
Reteaching **68**

Lesson 68

• Division with Two-Digit Answers and a Remainder

- In **long division**, remember four steps:
  Step 1: Divide.
  Step 2: Multiply.
  Step 3: Subtract.
  Step 4: Bring down.

Division Chart



Practice:

Divide. Use **long division**.

1. $3\overline{)104}$ 0 R

2. $7\overline{)237}$ 0 R

3. $5\overline{)172}$ 0 R

4. $6\overline{)261}$ 0 R

5. $3\overline{)119}$ 0 R

6. $8\overline{)396}$ 0 R

7. $9\overline{)640}$ 0 R

8. $6\overline{)456}$ 0 R

9. $3\overline{)100}$ 0 R

10. Deshawn divided 138 by 4 and got 34 R2 for his answer. Describe how to check Deshawn's calculation.

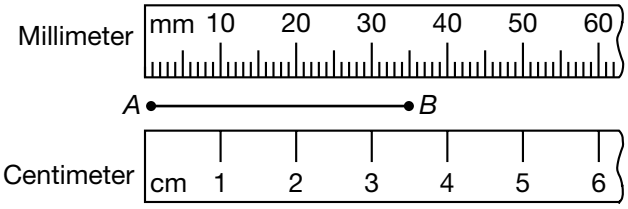
To check his calculation, I would _____ *34 by* _____*. Then I would*

_____ *2 to the product.*

The answer should be _____*.*

• Millimeters

- It takes 10 millimeters to equal 1 centimeter.
- A millimeter scale and a centimeter scale are shown below.



Convert:

1 cm = 10 mm

3 cm = _____ mm

5 cm = _____ mm

_____ cm = 20 mm

_____ cm = 40 mm

- The length of segment AB is 35 millimeters. It is also 3.5 centimeters.
- To convert between millimeters and centimeters, multiply or divide by 10.
- **Metric** measures are always written as **decimal** numbers instead of fractions.

Practice:

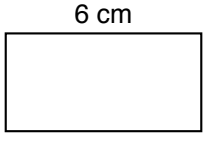
1. The width of a fingernail is about 1 centimeter. How many centimeters is 3 meters? _____

2. A dime is about 1 millimeter thick. How many dimes would it take to make a stack 5 centimeters high? _____

3. Each side of a triangle is 4 centimeters long. What is the perimeter of the triangle? _____

4. The diameter of a quarter is about 23 mm. How many centimeters is that? _____

5. A rectangle has a length of 6 cm and a width that is half that. What is the perimeter in millimeters? _____



$\frac{1}{2}$ of 6 cm

Name _____

Reteaching **70**

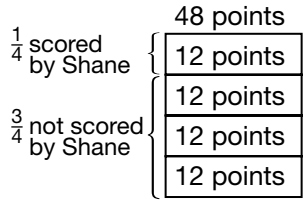
Lesson 70

• Word Problems About a Fraction of a Group

- To find the fractional part of a group we divide by the number of equal parts. To divide, we use the denominator.

Example: One fourth of the team's 48 points were scored by Shane. Shane scored how many points?

Solution: The whole rectangle represents for 48 points. Shane scored $\frac{1}{4}$ of the points, so we divide the rectangle into 4 equal parts.



$$4\overline{)48}\quad 12$$

Shane scored 12 points

Shortcuts:

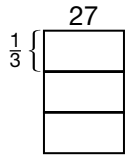
$\frac{1}{2}$ of a number Divide by 2.

$\frac{1}{3}$ of a number Divide by 3.

$\frac{1}{4}$ of a number Divide by 4.

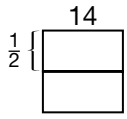
Practice:

1. What is $\frac{1}{3}$ of 27? _____



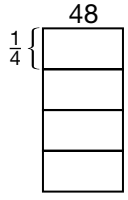
$3\overline{)27}$

2. What is $\frac{1}{2}$ of 14? _____



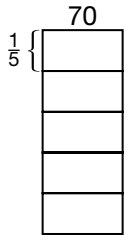
$2\overline{)14}$

3. What is $\frac{1}{4}$ of 48? _____



$4\overline{)48}$

4. What is $\frac{1}{5}$ of 70? _____



$5\overline{)70}$