

• Word Problems About Comparing

- To find the difference between two numbers, subtract.

Formula	Problem
Larger	52 apples
- Smaller	- 21 apples
Difference	31 apples

Always put the larger number on top.

- Watch for these words:

more
fewer
less than
greater than

Practice:

Read the word problem and fill in the blanks to solve the problems.

- Cray Lake is 74 feet deep. Silver Lake is 68 feet deep. How many more feet deep is Cray Lake?

_____ Cray Lake depth

- _____ Silver Lake depth

_____ feet deeper

- Spencer had a collection of 63 comic books. His friend Annabeth had a collection of 78 comics. How many more comics does Annabeth have than Spencer?

- _____

_____ more comics

- Paulo lives 12 minutes from the pool, while Isaac lives 26 minutes from the pool. How many minutes more does it take Isaac to get to the pool than Paulo?

- _____

_____ minutes more

• Multiplication Facts (9s, 10s, 11s, and 12s)

- 9s multiplication facts:

The **first digit** of the product is **one less** than the factor.

The **two digits** of the product always add up to **9**.

Sets of 9

$$8 + 1 = 9$$

$$7 + 2 = 9$$

$$6 + 3 = 9$$

$$5 + 4 = 9$$

- 10s multiplication facts:

To multiply a whole number by 10, copy the number, then attach a **zero**.

The **last digit** of the product is always zero.

We can see a pattern in the multiples of 10 using the following money model:

Dimes	1	2	3	4	5	6	7	8	9	10
Pennies	10	20	30	40	50	60	70	80	90	100

- 11s multiplication facts:

For the numbers 1–9, both digits in the product are the factor that is not 11.

We can see a pattern in multiples of 11 by looking at the number of players in a soccer team:

Teams	1	2	3	4	5	6	7	8	9	10
Players	11	22	33	44	55	66	77	88	99	110

When we multiply 10×11 , we are using the multiplication rules for 10 *and* 11.

- 12s multiplication facts:

The digits in the product add up to a multiple of 3. Count up by 3s to check your work.

We can see a pattern in the multiples of 12 by thinking about feet and inches:

Feet	1	2	3	4	5	6	7	8	9	10
Inches	12	24	36	48	60	72	84	96	108	120

Practice:

Find the product for each multiplication fact.

1.
$$\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 12 \\ \times 5 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 11 \\ \times 4 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

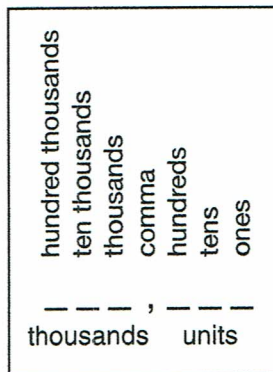
7.
$$\begin{array}{r} 12 \\ \times 3 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 11 \\ \times 9 \\ \hline \end{array}$$

• Writing Numbers Through Hundred Thousands

- Use hyphens to spell out the numbers 21–99 (except numbers that end with zero).
- Remember to place a comma after the word **thousand**:

4507	written in words is	four thousand, five hundred seven
34,507	written in words is	thirty-four thousand, five hundred seven
234,507	written in words is	two hundred thirty-four thousand, five hundred seven



- Counting from the right, place a comma every three digits.

Example: 654321 → 654,321

- Picture the numbers in groups of three.

Each group is a family (thousands family, units family, etc.)

Each family has three members: ones, tens, and hundreds.

Practice:

Read the following numbers to your teacher:

1. (218),000

2. (516),000

3. (16),300

4. (675),000

5. (6)385

6. (450),295

Use words to write these numbers:

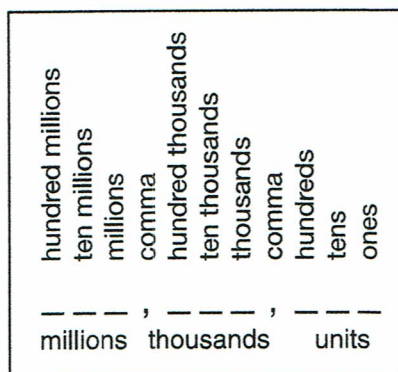
7. (3)112 _____

8. (21),283 _____

9. (618),493 _____

• Writing Numbers Through Hundred Millions

- Use a comma to separate families. Three places follow every comma.



Practice:

Use digits to write each number.

1. two million, two hundred fifteen thousand, six hundred eighty-four

_____, _____, _____

2. eighteen million, forty-five thousand, eight hundred five

_____, _____, _____

3. four hundred one million, nine hundred seventy-six thousand, nine

_____, _____, _____

4. eight million, seven hundred eleven, two hundred fifty-six

_____, _____, _____

5. five hundred sixty-three million, eight

_____, _____, _____

• Naming Mixed Numbers and Money

Naming Mixed Numbers

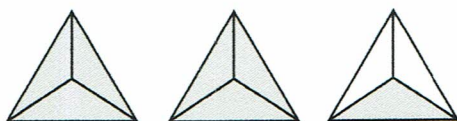
- A **mixed number** is a whole number and a fraction: $3\frac{1}{2}$
- Use the word “and” when naming mixed numbers.

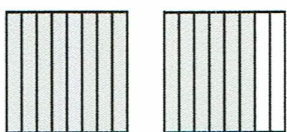

 $= 2\frac{1}{4}$ two *and* one fourth

- In amounts of money, we use the word “and” to read the decimal point.
The decimal point must be two digits from the end of the number.
If there are no dollars, write a zero in front of the decimal point.
\$0.04 means the same as 4¢, which we read as “four cents.”
40¢ = \$0.40, which we read as “forty cents.”
We read \$1.04 as “one dollar and four cents.”

Practice:

What mixed numbers are pictured here?

1.  = _____

2.  = _____

Use words to write each mixed number.

3. $10\frac{3}{4}$ _____

4. $3\frac{75}{100}$ _____

Write each amount with a **cent sign** instead of a dollar sign.

5. \$0.34 _____

6. \$0.71 _____

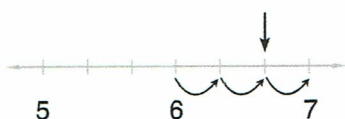
Write each amount with a **dollar sign** instead of a cent sign.

7. 63¢ _____

8. 5¢ _____

• Reading Fractions and Mixed Numbers from a Number Line

- To name mixed numbers on a number line:
 1. Count segments from the whole number to the point to find the **numerator** (top number).
 2. Count the segments between whole numbers to find the **denominator** (bottom number).
 3. Remember to name the whole number.

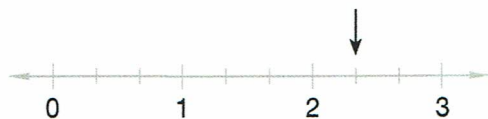
Example:

1. Two segments between 6 and the arrow.
The numerator is 2.
2. Three segments between 6 and 7.
The denominator is 3.
3. The whole number is 6.
The answer is $6\frac{2}{3}$.

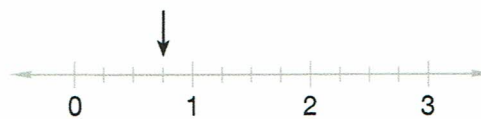
Practice:

Name each fraction or mixed number marked by the arrows below.

1. _____



2. _____



3. _____



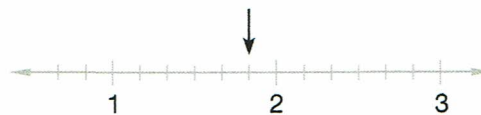
4. _____



5. _____



6. _____



• Multiplication Facts (Memory Group)

- Read and practice recalling these multiplication facts.

$$3 \times 4 = 12 \quad 4 \times 7 = 28$$

$$3 \times 6 = 18 \quad 4 \times 8 = 32$$

$$3 \times 7 = 21 \quad 6 \times 7 = 42$$

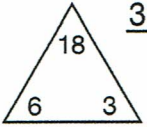
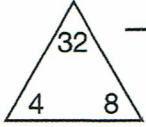
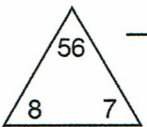
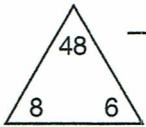
$$3 \times 8 = 24 \quad 6 \times 8 = 48$$

$$4 \times 6 = 24 \quad 7 \times 8 = 56$$

- Because multiplication and division are **inverse operations**, we can find division facts to complete a fact family for each fact in the memory group.

Practice:

Write two multiplication facts and two division facts for each fact family below.

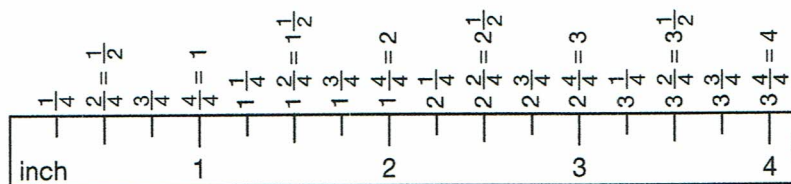
1.  $3 \times 6 = 18$ $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ $3 \overline{)18}$ $\underline{\quad}$	2.  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$
3.  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$	4.  $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ $\underline{\quad}$ $\underline{\quad}$

Multiply. Try to write the answers quickly without stopping between problems.

- | | | |
|------------------------|------------------------|------------------------|
| 5. 4×3 _____ | 6. 4×6 _____ | 7. 4×7 _____ |
| 8. 3×6 _____ | 9. 3×7 _____ | 10. 3×8 _____ |
| 11. 6×4 _____ | 12. 6×5 _____ | 13. 6×7 _____ |
| 14. 7×8 _____ | 15. 8×7 _____ | 16. 8×4 _____ |

• Reading an Inch Scale to the Nearest Fourth

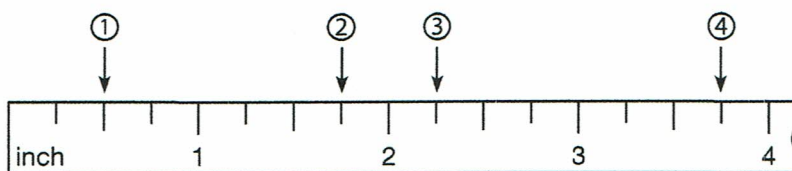
- Practice counting across the ruler below.



- Each **inch** on this ruler is divided into **fourths**.
- The long marks are inch marks.
- The short marks are $\frac{1}{4}$ -inch marks.
- The marks halfway between the inch marks are $\frac{1}{2}$ -inch marks.
- Remember, $\frac{2}{4} = \frac{1}{2}$.

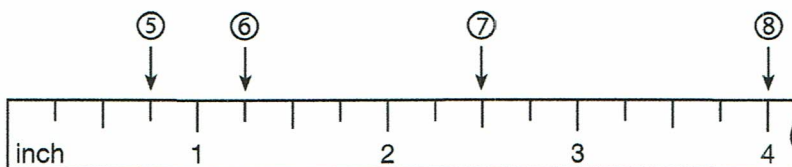
Practice:

Name each point marked by an arrow on this inch scale. Remember to write the units.



1. _____ 2. _____ 3. _____ 4. _____

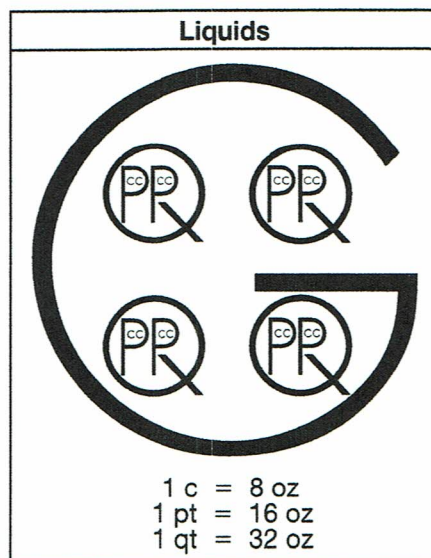
Read each point marked by an arrow on this inch scale to the nearest fourth.



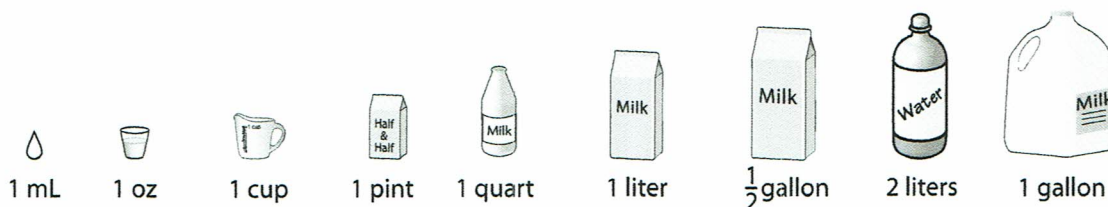
5. _____ 6. _____ 7. _____ 8. _____

• **Capacity**

Capacity Units	
U.S.	Metric
oz ounce	mL milliliter
c cup	L liter
pt pint	
qt quart	
gal gallon	



Capacity Equivalences	
U.S. Customary	Metric
16 oz = 1 pt	1000 mL = 1 L
2 pt = 1 qt	
4 qt = 1 gal	

**Practice:**

- How many cups are equal to one quart? _____
- How many pints are equal to one gallon? _____
- How many ounces are equal to one pint? _____
- Which is larger one quart or one liter? _____
- How many milliliters in one liter? _____
- How many milliliters will you need for 5 liters? _____
- U.S. Liquid Measure

$$8\text{ fl oz} = 1\text{ c}$$

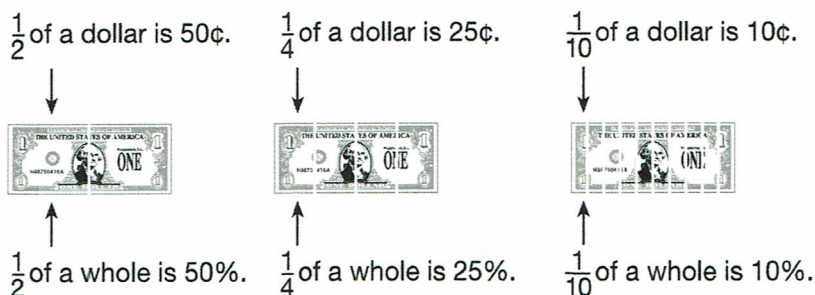
$$\text{_____ c} = 1\text{ pt}$$

$$\text{_____ pt} = 1\text{ qt}$$

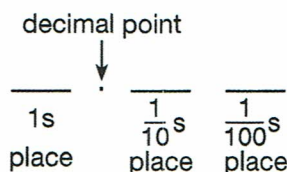
$$\text{_____ qt} = 1\text{ gal}$$

• Relating Tenths and Hundredths and Fractions to Decimals

- Just as one cent is one hundredth of a whole dollar, one percent is one hundredth of a whole.



- We represent these places with dollars, dimes and pennies as shown.



- Fractions and decimals are two ways to describe parts of a whole.
- Fractions always show a numerator and a denominator. Decimal numbers do not show the denominator, but it is indicated by the number of places to the right of the decimal point.

$$0.1 = \frac{1}{10} \quad \text{one decimal place} \qquad 0.12 = \frac{12}{100} \quad \text{two decimal places}$$

- Decimal numbers name the numerator shown by the digits and the denominator is named by the number of decimal places.

$$\frac{75}{100} \text{ is read "seventy-five hundredths"}$$

Practice:

Use bills and coins to represent problems 1–2.

1. \$13.43

2. Six and four hundredths.

Use words to name each of these numbers.

3. $\frac{63}{100}$

4. 0.63

5. 4.8

6. 15.93

Use digits to write each of these decimal numbers.

7. six and seven tenths

8. eight and twenty-nine hundredths