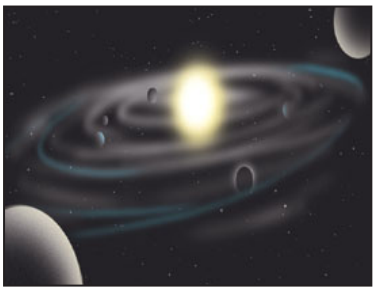
Numeration – Trillions



Genesis 1:14-19 And God said, "Let there be lights in the expanse of the sky to separate the day from the night, and let them serve as signs to mark seasons and days and years, and let there be lights in the expanse of the sky to give light on the earth." And it was so. God made two great lights, the greater light to govern the day and the lesser light to govern the night. He also made the stars. God set them in the expanse of the sky to give light on the earth, to govern the day and the night, and to separate light from darkness. And God saw that it was good. And there was evening, and there was morning the fourth day."

God took great care in creating our world. The massive size of our Solar System gives evidence of the omnipotence of our Heavenly Father. Scientists today measure the distance between planets in Astronomical Units (AU). An AU is the mean distance between the earth and the sun. One Astronomical Unit (AU) is about 92,960,000 miles (149,604,970 Km). Look at the chart below. This chart lists the distances from each planet to the Sun in both Astronomical Units (AU) and miles. Can you read each number correctly?

Planet	AU	Miles
Mercury	0.39	36,254,400
Venus	0.72	66,931,200
Earth	1	92,960,000
Mars	1.52	141,299,200
Jupiter	5.20	483,392,000
Saturn	9.54	886,838,400
Uranus	19.18	1,782,972,800
Neptune	30.06	2,794,377,600
Dwarf Planet Pluto	39.44	3,666,342,400

hundred trillions	ten trillions	trillions	hundred billions	ten billions	billions	hundred millions	ten millions	millions	hundred thousand	ten thousands	thousands	hundreds	tens	ones
					3	6	6	6	3	4	2	4	0	0

The number can be written in three different ways.

Standard Form: 3,666,342,400

Written Form: Three billion, six hundred sixty-six million, three hundred forty-two thousand, four hundred

Expanded Form: 3,000,000,000 + 600,000,000 + 60,000,000 + 6,000,000 + 300,000 + 40,000 + 2,000 + 400

OR

Expanded Form: (3 x 1,000,000,000) + (6 x 100,000,000) + (6 x 10,000,000) + (6 x 1,000,000) + (3 x 100,000) + (4 x 10,000) + (2 x 1,000) + (4 x 100)

$x \div 5 = 7$ $x \div 9 = 9$ $x \div 10 = 10$ $x \div 13 = 3$

$\frac{x}{7} = 7$ $\frac{x}{9} = 8$ $\frac{x}{9} = 7$ $\frac{x}{8} = 6$

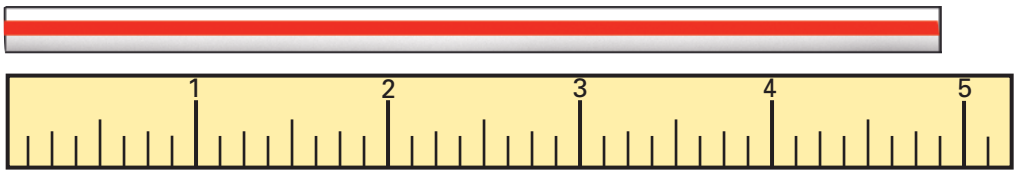
2 **Find the difference.**

569,241 − 531,955	900,801 − 762,690	306,082 − 65,961	225,909 − 157,753

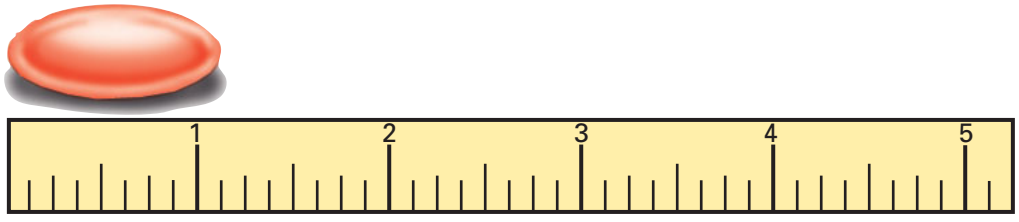
3 **Find the sum.**

909,270 + 400,969	978,822 + 568,097	586,702 + 601,588	656,342 + 58,769

4 **Write the measurement.**



The straw is _____ inches long.



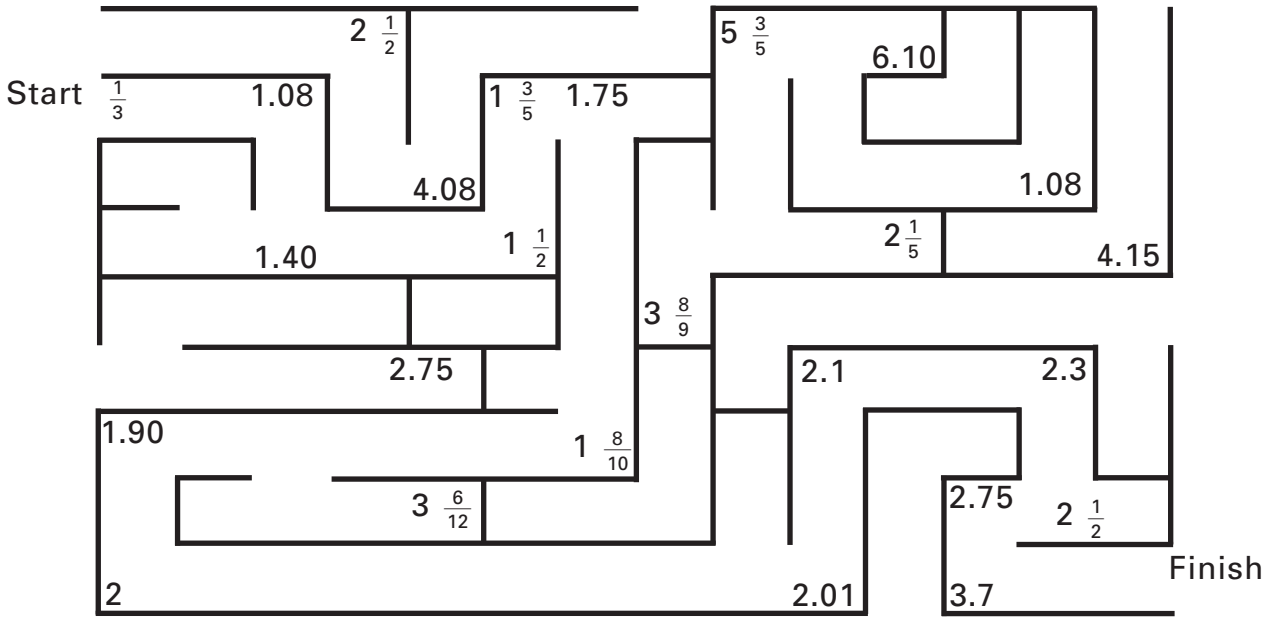
The candy is _____ inches long.

2 **Change each mixed fraction to an improper fraction.**

$8\frac{1}{5} =$ _____ $8\frac{2}{9} =$ _____ $3\frac{7}{8} =$ _____ $11\frac{1}{6} =$ _____

$16\frac{4}{7} =$ _____ $15\frac{1}{2} =$ _____ $17\frac{1}{3} =$ _____ $12\frac{3}{4} =$ _____

3 **Find your way through the maze by finding the next greatest number.**



4 **Use the chart to solve the following problems.**

12 inches = 1 foot
36 inches = 3 feet = 1 yard
5,280 feet = 1,760 yards = 1 mile

14 feet = _____ inches

108 inches = _____ feet

4 miles = _____ feet

3 miles = _____ yards

27 feet = _____ yards

10,560 feet = _____ miles

18 yards = _____ feet

2 yards = _____ inches

Division

Many times you can look at a division problem and tell if an answer is too high or too low by using your knowledge of division and multiplication to estimate the answer in your head. Look at the example below.

Karen and Doug were moving from Georgia to Alaska. The trip would cover 5,000 miles by automobile. If they allowed 14 days to drive, how many miles per day would they need to travel in order to complete the trip in that amount of time?

Problem A $14\overline{)5{,}000}$ 500

Problem B $14\overline{)5{,}000}$ 200

Is the first answer shown too high of an estimate, or is the estimate too low? Think logically and use your knowledge of multiplication. If 14 rounds down to 10, then 10 x 500 would be 5,000. However, Doug and Karen have allowed 14 days. This means that the estimate in problem A of 500 miles per day is too large. What about the estimate in problem B? What is 14 x 200? 14 x 2 = 28, so 14 x 200 = 2,800. This estimate is too low. The correct answer must be somewhere between 200 and 500. Work the problem to find the actual number of miles they will need to travel each day.

$$14\overline{)5{,}000} \quad 357\ R2$$

This means that Doug and Karen will need to drive at least 357 miles per day in order to reach Alaska in 14 days.

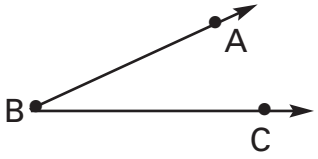
1 **Tell if the estimated answer is too high or too low. Then find the quotient.**

$11\overline{)7{,}243}$ 200 $12\overline{)4{,}596}$ 500 $23\overline{)2{,}111}$ 70 $5\overline{)829}$ 400

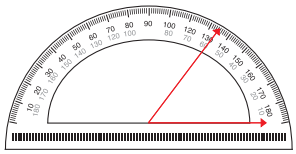
Classifying and Measuring Angles

An **angle** is two rays that share a common end point.

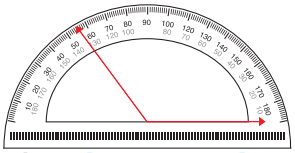
The rays $\overrightarrow{BA}$ and $\overrightarrow{BC}$ are called *sides*. They meet at vertex B to form an angle. The angle can be referred to as ∠ABC, ∠B, or ∠CBA.



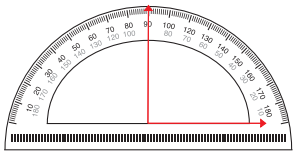
There are *four* kinds of angles:



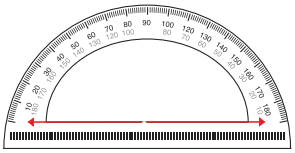
An **acute angle.**
Less than 90°.



An **obtuse angle.**
Greater than 90°.



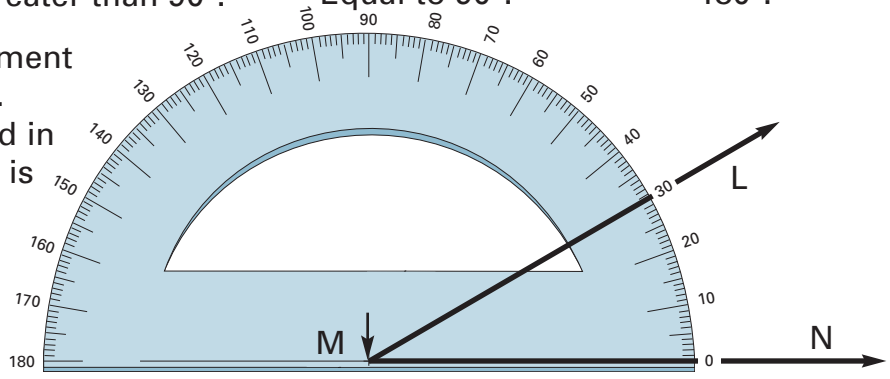
A **right angle.**
Equal to 90°.



A **straight angle.**
180°.

A *protractor* is an instrument used to measure angles. The angles are measured in degrees. The protractor is marked with 180 degree (180°) units.

What is the measure of∠LMN?



Follow these simple steps to measure an angle with a protractor:

1. Place the arrow on the protractor on the vertex of the angle.
2. Place the zero edge on the side of the angle.
3. Read the measure of the angle.

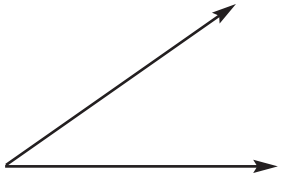
∠LMN measures 30°

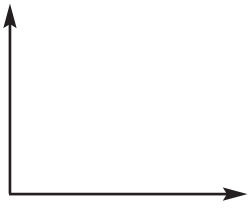
1 **Write** obtuse, acute **or** right angle.

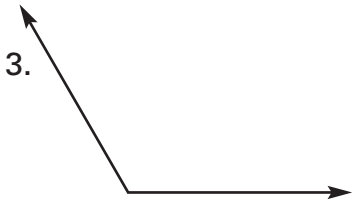
1. 30° _____
2. 118° _____
3. 90° _____
4. 27° _____

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

Give the measure of each angle. You may need to extend the sides of the angle for easier reading.

1. 

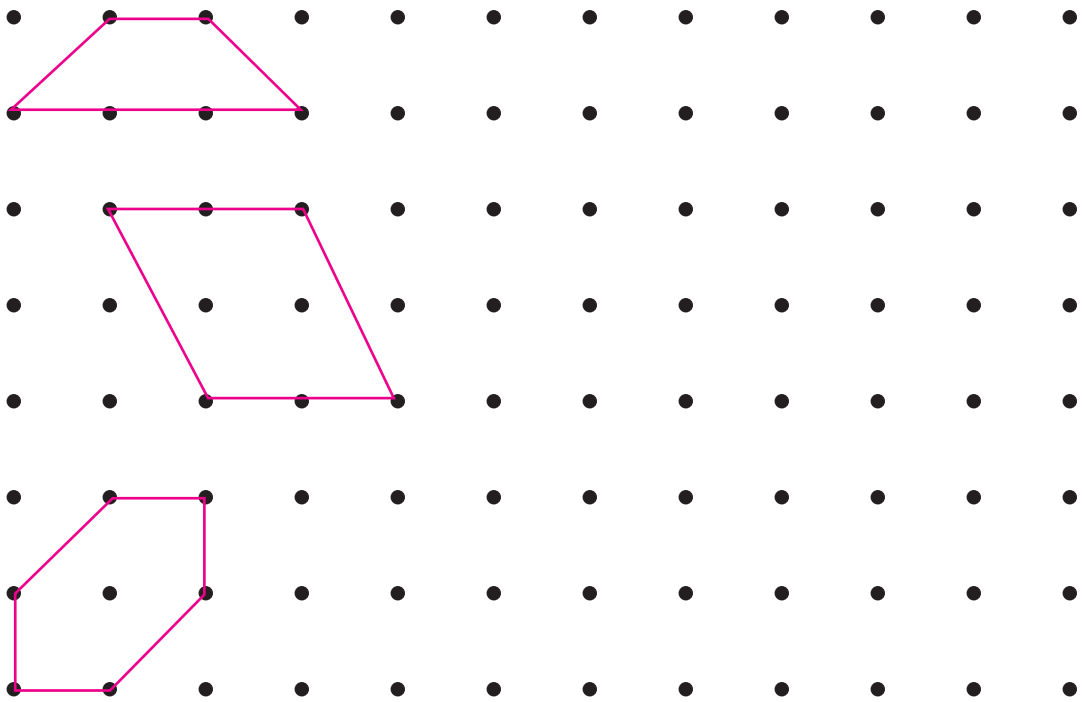
2. 

3. 

4 **Find the missing number.**

8.75 – _____ = 6.36	13.30 – _____ = 5.31
10.871 – _____ = 9.682	139.060 – _____ = 97.138
2,108.6 – _____ = 1,039.9	5,362.51 – _____ = 480.46

5 **Draw similar figures to the ones given.**



6 **Shade the fractions which are equivalent to $\frac{1}{2}$ and $\frac{2}{3}$.**

$\frac{9}{21}$	$\frac{9}{45}$	$\frac{25}{50}$	$\frac{7}{8}$	$\frac{12}{36}$
$\frac{14}{20}$	$\frac{6}{16}$	$\frac{10}{15}$	$\frac{11}{12}$	$\frac{1}{5}$
$\frac{7}{49}$	$\frac{20}{40}$	$\frac{30}{45}$	$\frac{4}{6}$	$\frac{5}{6}$
$\frac{1}{13}$	$\frac{8}{25}$	$\frac{44}{66}$	$\frac{15}{21}$	$\frac{11}{20}$
$\frac{2}{15}$	$\frac{19}{33}$	$\frac{9}{18}$	$\frac{2}{9}$	$\frac{5}{25}$
$\frac{4}{5}$	$\frac{30}{50}$	$\frac{5}{10}$	$\frac{1}{3}$	$\frac{20}{60}$