

# Math Challenge #13



First Name: _____	Last Name: _____	Grade: _____
Teacher: _____	Parent's email: _____	

## Measurement

Measurement is finding a number that shows the size or amount of something. We measure different things, but we mostly measure **Length, Weight, Time, Volume and Capacity**. In this challenge, you will be solving math problems involving the different types of measurements.

Customary Length	
12 in	1 ft
3 ft	1 yd
1760 yd	1 mi

Customary Weight	
16 oz	1 lb
2000 lb	1 ton

Customary Capacity	
8 fl oz	1 c
2 c	1 pt
2 pt	1 qt
4 qt	1 gal

Metric Length	
10 mm	1 cm
100 cm	1 m
1000 m	1 km

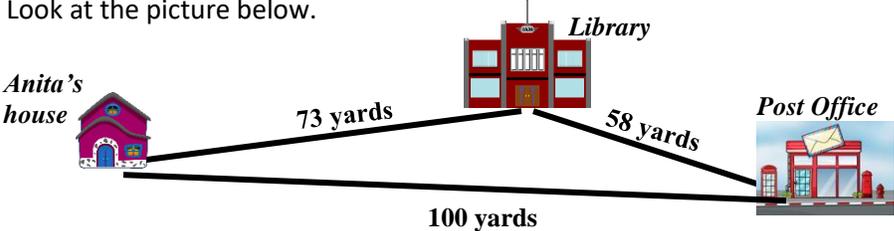
Metric Mass	
1000 mg	1 g
1000 g	1 kg

Metric Capacity	
1000 mL	1 L

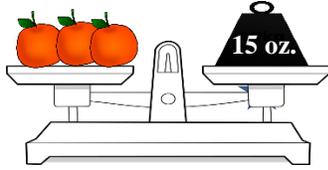
**Kinder & First Grade: solve at least 3 problems.**  
**Second & Third Grade: solve at least 6 problems.**  
**Fourth Grade and above: solve at least 12 problems.**

### Problems

### Answer

<p>1. Order the following three lines according to their lengths from the shortest to the longest.</p> <div style="display: flex; flex-direction: column; align-items: center; gap: 10px;"> <div style="display: flex; align-items: center;"> <span style="margin-right: 5px;">A</span>  </div> <div style="display: flex; align-items: center;"> <span style="margin-right: 5px;">B</span>  </div> <div style="display: flex; align-items: center;"> <span style="margin-right: 5px;">C</span>  </div> </div>	
<p>2. Look at the picture below.</p> <div style="text-align: center; margin: 10px 0;">  </div> <p>Fill in the blank:</p> <ol style="list-style-type: none"> <li>a. How many yards away is the library from Anita's house?</li> <li>b. If Anita decides to go to the library then to the post office, how far, in yards, does she travel?</li> </ol>	<p>a.</p> <p>b.</p>
<p>3. Look at the two lines A and B drawn below.</p> <div style="text-align: center; margin: 10px 0;">  </div> <div style="text-align: center; margin: 10px 0;">  </div> <p>How many inches longer is line A than line B?</p>	

4. Look at the diagram below.

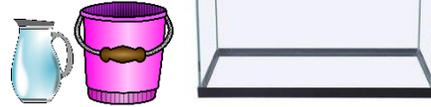


The weight of each  is \_\_\_\_ oz.

5. A small watering can has 4 cups of water. A bucket contains 5 times as much water as the small watering can. How many cups of water are in **both** containers?

6. Ciara is 3 feet and 6 inches tall and her sister, Jessica, is 50 inches tall. What is the difference in their height? Express your answer in inches.

7. A pitcher contains 2 quarts of water. The water in 3 such pitchers is poured into a bucket. Lisa took 8 such buckets and poured the water into a tank. How many gallons of water is in the tank?



8. An ant is in a well and it wants to get out. The well is 6 m deep. Each day, the ant climbs up 4 m, but at night it slides back down 2 m. How many days will it take the ant reach the top of the well?

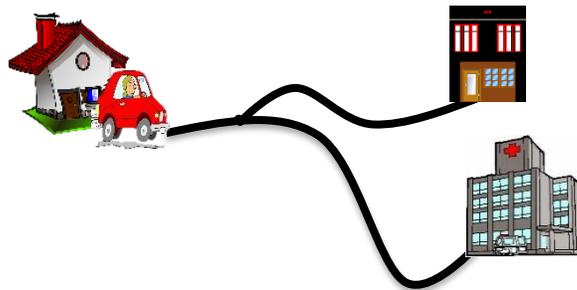
9. Warren weighs 94 lb. He is half as heavy as Uncle Mike. Uncle Mike weighs 4 times as much as his niece, Tina. How much does Tina weigh?

- 10.



The Golden Gate Bridge of San Francisco is 4,200 feet long. San Francisco's Transbay Bridge is 2,310 feet long. If Jenna walked both bridges both ways, about how many miles would Jenna have walked?  
1 mile = 5280 feet

11. Mr. Toll works at an office that is located 13.2 miles away from his house. He goes to work 5 days a week, Monday to Friday. On Saturday and Sunday, he goes to volunteer for a couple hours at a nearby hospital. The distance from his office to the hospital is 18 miles. The distance from the intersection to the hospital is 6.75 miles. Last week Mr. Toll drive his car only to and from his work and to and from the hospital. What was the total distance he drove last week assuming there are no other routes other than the one shown in the figure above?



12. Charles Lindbergh was the first person to fly across the Atlantic Ocean alone. He flew 3,610 miles in 33.5 hours. How many miles per hour did he fly?

13. Elizabeth estimates the distance between two cities on a map using her thumb, from knuckle to thumb tip. The distance is 7 thumb units. Joey uses his thumb to measure the same distance and comes up with 6 thumb units. Elizabeth's thumb unit measures 15 miles what does Joey's thumb unit measure?

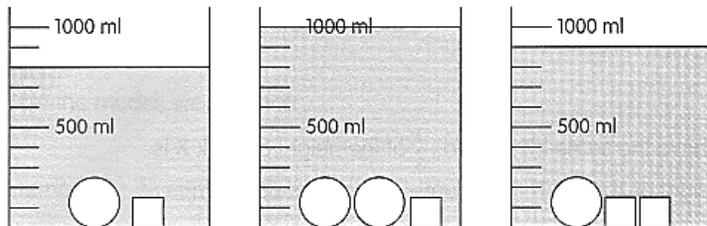
14. A tablespoon is half of a fluid ounce, a cup is 8 fluid ounces, and a gallon is 16 cups. How many tablespoons are in a gallon?

15. Peter had a 12:00 pm appointment that was 60 miles from his house. He drove from his home at an average rate of 40 mph and arrived 15 minutes late. At what time did Peter leave home for the appointment?

16. Locks of Love is a non-profit organization that provides wigs to people who have lost their hair due to chemotherapy. Eliza cut off 18 inches of her hair for "Locks of Love." It took her 2.5 years to grow it back. How much did her hair grow each month?

17. A firefighter is climbing a ladder that is leaning against the top of a 144-foot building. The base of the ladder is 60 feet from the building. If the firefighter climbs at the rate of 9 feet per second, how long until he reaches the top of the building?

18. The beakers below contain the same amount of water. They contain some cubes and balls. Find the volume of a cube and a ball together.



*Solution is available on 4/13/2017 at [www.mathinaction.org](http://www.mathinaction.org)*