4th Grade Common Core Math Assessments

Measurement and Data
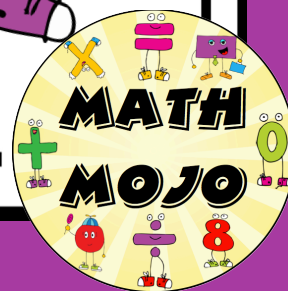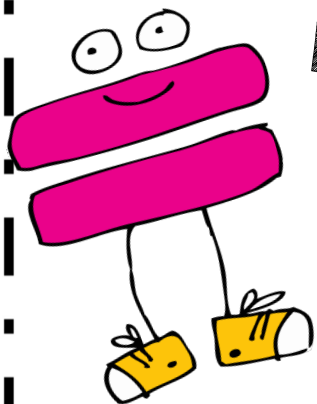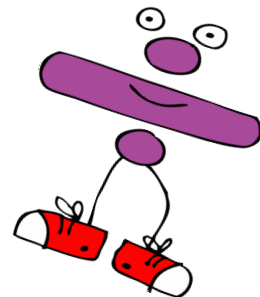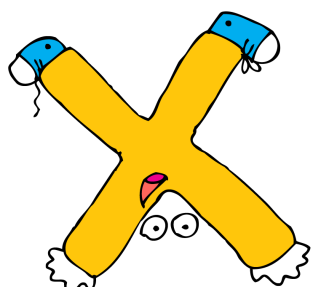
MATH MOJO

Table of Contents

* Please note – If you need assessments for other 4th Grade Common Core Math Standards you can find them here – http://www.teacherspayteachers.com/Store/Math-Mojo/Category/Assessments

Using The Assessments

This pack contains 2 assessments for each of the 4th Grade Common Core Math Standards. The first assessment is a "Skills Check". It is a 4 question assessment designed to assess students ability to perform the skills from the standard, for example long multiplication or rounding numbers.

The second assessment is called a "Performance Check". This assessment is 2 questions and has students perform a task, solve a problem, and/or use higher order thinking skills. You can use both assessments together or use them separately.

Tracking Student Progress on the Assessments

There are 3 ways to track student achievement when using these assessments.

The tracking options include the following:
* **Individual Student Graphs** - Students can track the percent correct on each assessment with a bar graph (students can fill these out)
* **Individual Student Charts** - You can chart individual student data on the individual standards
* **Class Data Chart**- Chart the progress of your class and have all the student's data in one place

Using The Data

This data can be used in multiple ways. Teachers can use it to discover class trends, to group students for enrichment or remediation, or to select topics for reteaching and review. The data can be gathered relatively quickly and can be used as a "quick check" before testing or it can be used to assess how well a student mastered a standard. A unique feature of this assessment is that you can look at students ability to perform a skill (Skills Checks) and a student's ability to apply the skill (Performance Checks). Often that helps to determine the type of remediation/reteaching that a student or class needs.

Math Assessment
Skills Check

4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

Name _____   Date _____

1. How many inches are in 6 feet?

Feet	Inches
1	12
2	
3	
4	
5	
6	

_____

2. How many grams are in 4 kilograms?

Kilograms	Grams
1	1,000
2	
3	
4	

_____

3. Martina's kitten weighs 3 pounds 7 ounces. How many ounces is that?

_____

4. It takes Laura 4 minutes and 30 seconds to read a page in her book. How many seconds is that in all?

_____

Math Assessment
Performance Check

4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

Name _____   Date _____

1. Jocelyn is having a lemonade stand. She needs to add 3 gallons of water to her lemonade. Her mother has 3 different containers to measure water. The containers hold 1 cup, 1 pint, and 1 quart. How many times would Jocelyn need to fill each container to make 3 gallons. Please make a chart for each container to show how many times it would need to be filled.

3 gallons = _____ cups   3 gallons = _____ pints   3 gallons = _____ quarts

2. At a fishing tournament Billy caught a fish that was 78 ounces. Josh caught a fish that weighed 4 pounds 7 ounces. Josh said caught the bigger fish. Is he correct? Explain your answer using a chart, pictures, words, or numbers.

Math Assessment
Skills Check

4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Name _____   Date _____

1. Allison has 5 feet of yarn that she wants to divide evenly between 6 friends. How many inches of yarn would each friend get?
1 foot = 12 inches

2. Apples cost $1.30 a pound. Leslie bought 3 pounds of apples. How much change would she get if she paid with a $5 bill?

3. Maggie brought 4 liters of hot cocoa to the hot cocoa stand and Thomas brought 750 milliliters to the stand. How many more milliliters did Maggie bring?

4. Jenna's mother sent her to the store to buy 3 gallons of milk. The store only had quart sized containers. How many quarts does Jenna need to buy to have 3 gallons?

Math Assessment
Performance Check

✔ ✔

Name _____   Date _____

1. Maddie bought two packs of gum that cost $1.45 each. She also bought a bottle of water that cost $1.50. She paid with a ten dollar bill. How much change did she receive? Explain your answer using a chart, pictures, words, or numbers.

2. Alice built a treehouse that is 7 feet 5 inches off the ground. Miquel built a treehouse that is 75 inches off the ground. He says his is higher off the ground than Alice's treehouse. Is he correct? Explain your answer using a chart, pictures, words, or numbers.

Math Assessment
Skills Check

4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

Name _____   Date _____

---

1. What is the area of the rectangle below?

   20 inches

   15 inches

---

2. What is the perimeter of the shaded region of the rectangle below?

   1 ☐ = 1 cm²

---

3. The Martinez family is building a rectangular shaped concrete patio. It is 7 feet long and 12 feet wide. What is the area of the patio?

---

4. Carmen is building a fence around her rectangular shaped garden. The garden is 8 feet long and 9 feet wide. What is the perimeter of her garden?

Math Assessment
Performance Check

4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

Name _____   Date _____

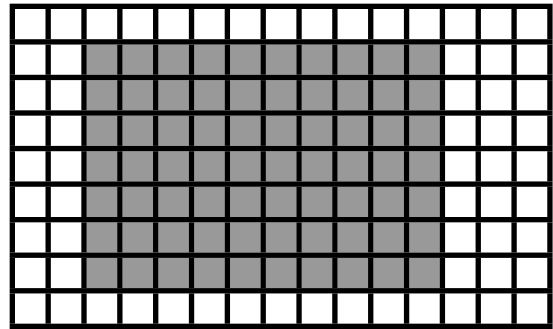1. Do rectangles with a perimeter of 20 inches always have the same area? Prove your answer using a chart, models, pictures, words, or numbers.

2. If you double the length and width of a rectangle does the area double? Prove your answer using a chart, models, pictures, words, or numbers.
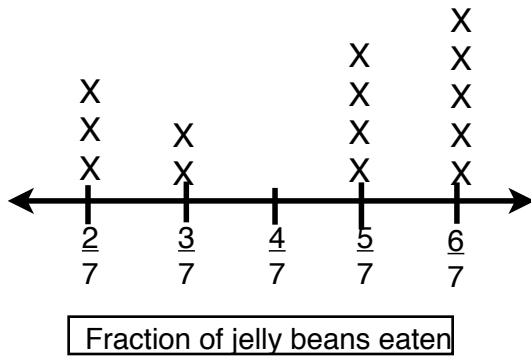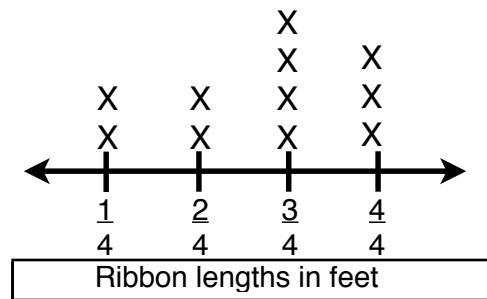
Math Assessment
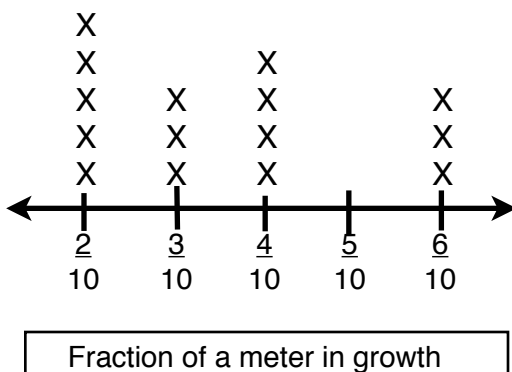## Skills Check

Name _____   Date _____

---

1. Each child in Mrs. Galbreth's class got 7 jelly beans. The chart below shows the fractions of the jelly beans each student ate. How many more students ate $\frac{5}{7}$ or more jelly beans of their jelly beans than students who ate $\frac{4}{7}$ or less?

```
                              X
                    X         X
          X         X         X
          X    X    X         X
          X    X    X    X     X
    <-----+----+----+----+----+----->
          2    3    4    5    6
          7    7    7    7    7
```
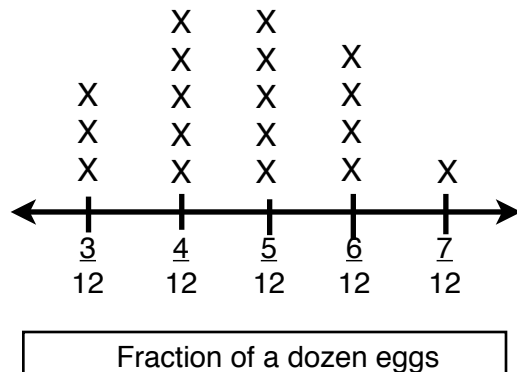[Fraction of jelly beans eaten]

---

2. Jeremy gave each of his friends some ribbon. The chart below shows the fraction of a foot of ribbon that he gave each friend. How many more friends got $\frac{3}{4}$ or more of a foot of ribbon than $\frac{1}{4}$ of a foot of ribbon?

```
                         X
                    X    X
                    X    X    X
          X    X    X    X    X
          X    X    X    X    X
    <-----+----+----+----+----->
          1    2    3    4
          4    4    4    4
```
[Ribbon lengths in feet]

---

3. Mr. Bean's students each grew sunflowers. The line plot below represents the fraction of a meter that each sunflower grew. How many more sunflowers grew less than $\frac{1}{2}$ a meter than grew more than $\frac{1}{2}$ a meter?

```
          X
          X              X
          X    X    X              X
          X    X    X              X
          X    X    X              X
    <-----+----+----+----+----+----->
          2    3    4    5    6
          10   10   10   10   10
```
[Fraction of a meter in growth]

---

4. Each student in Mrs. Roll's cooking class brought in a dozen eggs. The line plot below shows the fraction the eggs each student used. How many students used $\frac{5}{12}$ or more eggs?

```
                    X    X
                    X    X    X
          X         X    X    X
          X         X    X    X
          X    X    X    X    X
    <-----+----+----+----+----+----->
          3    4    5    6    7
          12   12   12   12   12
```
[Fraction of a dozen eggs]

Name _____   Date _____

1. Kayla cut some ribbon up for a project. Make a line plot to show how many pieces of each length she has.

1 in. $1\frac{1}{2}$ in.   2 in. $2\frac{1}{2}$ in.

1   3.MD.4
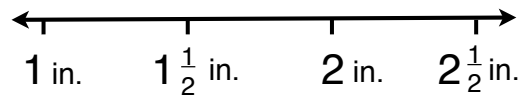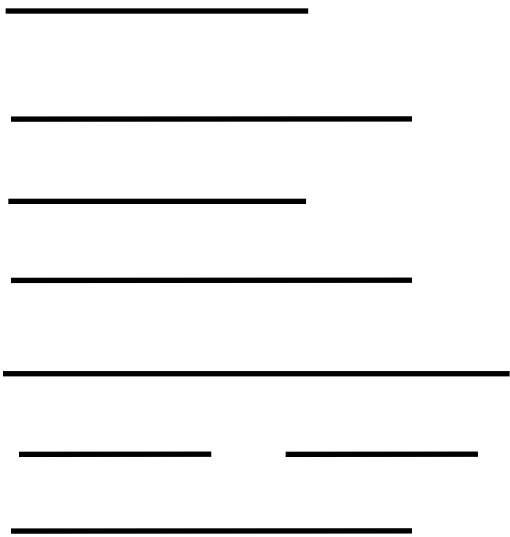
2. Mrs. Frank gave a math pretest. She recorded her students' test scores on the line plot below. How many more students got one half or more of the problems correct than students that missed over half?

$\frac{2}{10}$ $\frac{3}{10}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{6}{10}$

Math Pretest Scores
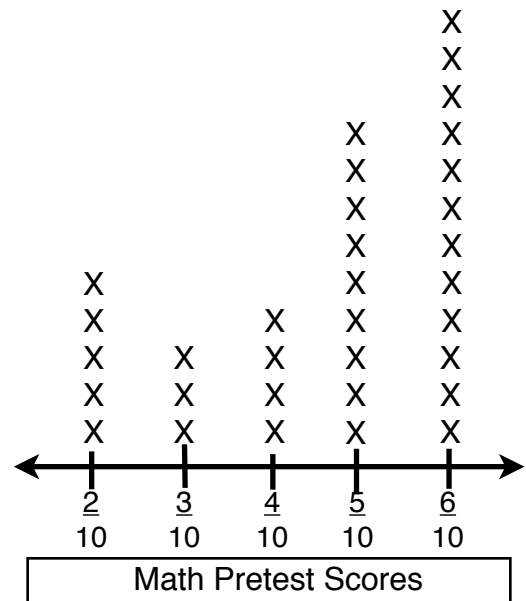
Math Assessment
Skills Check

4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.
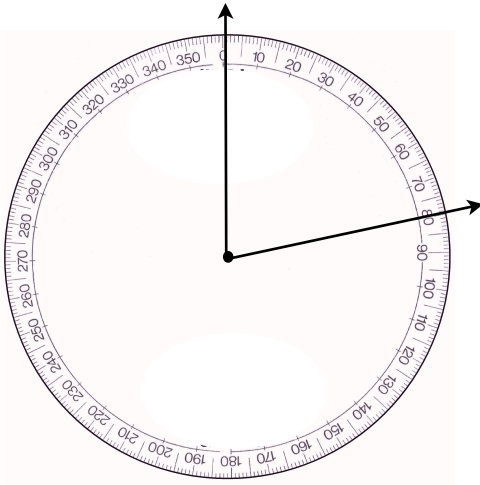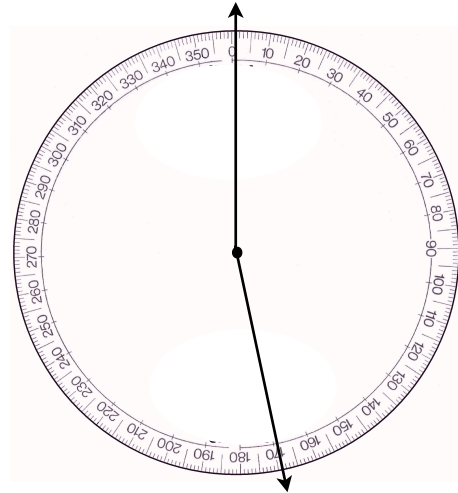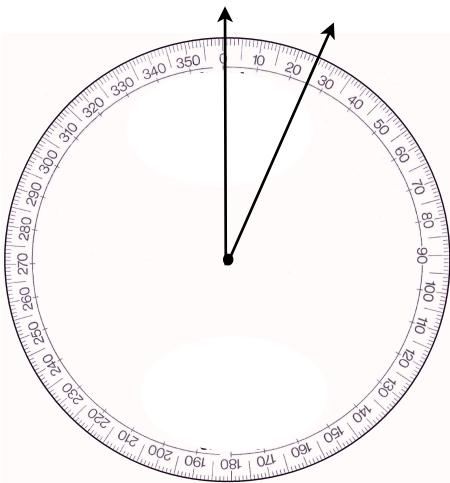
Name _____

Date _____

1. Tell the measure of the angle in degrees.

_____

2. Tell the measure of the angle in degrees.

_____

3. Tell the measure of the angle in degrees.

_____

4. Tell the measure of the angle in degrees.

_____

Math Assessment
Performance Check

Name _____   Date _____

1. If a circle is divided into 3 equal sized parts, what would the angle of each part measure? Please explain using a chart, models, pictures, words, or numbers.
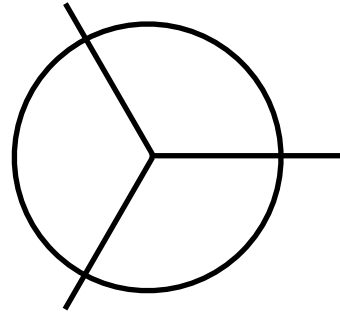
2. Alyse had a small round pizza that she divided into 4 equal slices. She measured the angle of each slice. Her brother had a large pizza that he divided into 4 equal slices. He said if he measured the angle of each slice the angle would be bigger. Is he correct? Prove your answer using a chart, models, pictures, words, or numbers.

Math Assessment
Skills Check

4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Name _____   Date _____

1. Use a protractor to measure the angle below.

2   Grade 4   4.MD.6

2. Use a protractor to measure the angle below.

19   # 6 Grade 4   Grade 4 4.MD.6   4.MD.6

3. Use a protractor to measure the angle below.

#

4   Grade 4   4.MD.6
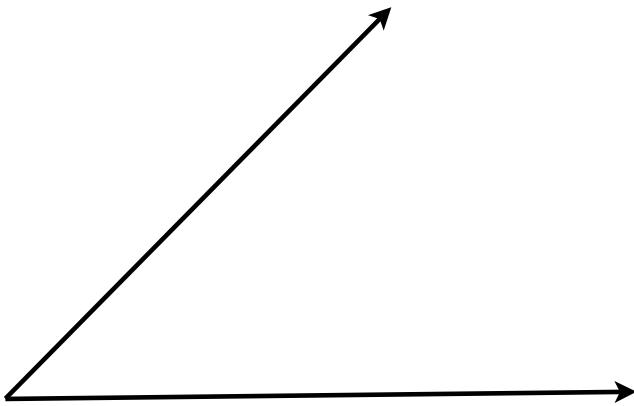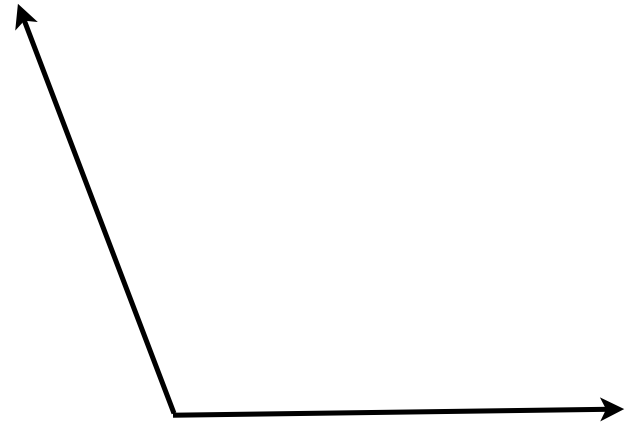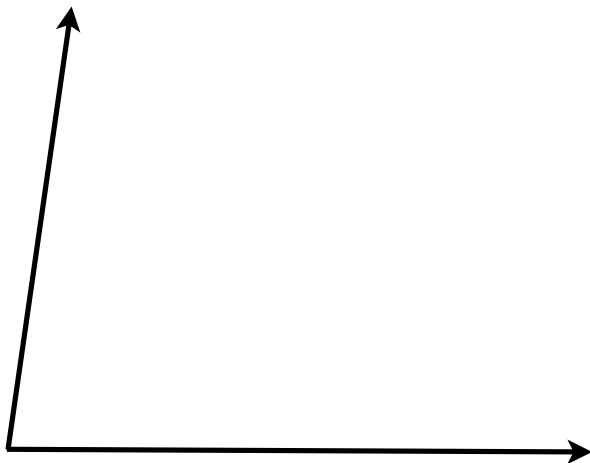
4. Use a protractor to measure the angle below.

4.MD.6

11   Grade 4   4.MD.6
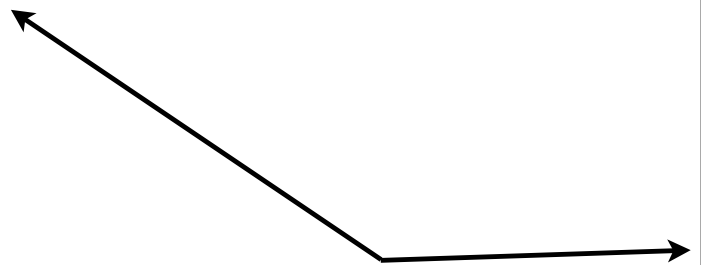
Math Assessment
Performance Check

4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Name _____   Date _____

1. Use a protractor to draw and label a 45° angle. Then draw and label an acute angle that is smaller than 45° and one that is larger than 45°.

2. Use a protractor to draw and label a 120° angle. Then draw and label an obtuse angle that is smaller than 120° and an obtuse angle that is larger than 120°.

Math Assessment
Skills Check

4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Name _____   Date _____

1. Find the measurement of ∠LMO.

_____ 125

45°

L

N

80°

O

M

2. If ∠RSQ measures 60°, what is the measure of ∠TSQ ?

_____

R

25°   T

?°

S   Q

3. Find the measurement of ∠CFE.

_____

C

D

65°

B

48°

45°

22°

A   E

F

4. If ∠TUV measures 125° what is measure of ∠WUV?

_____

T

83°

W

?

U   V
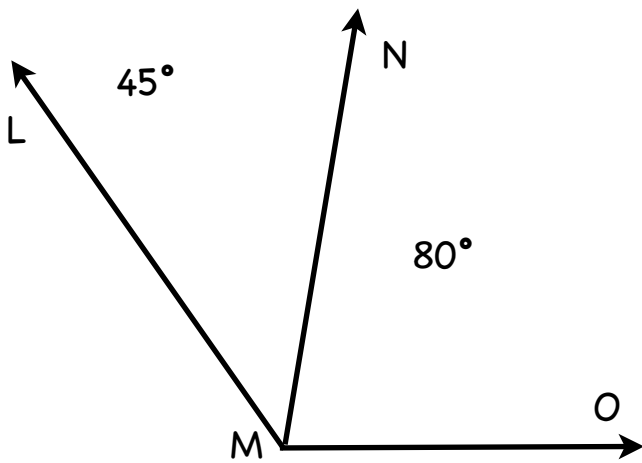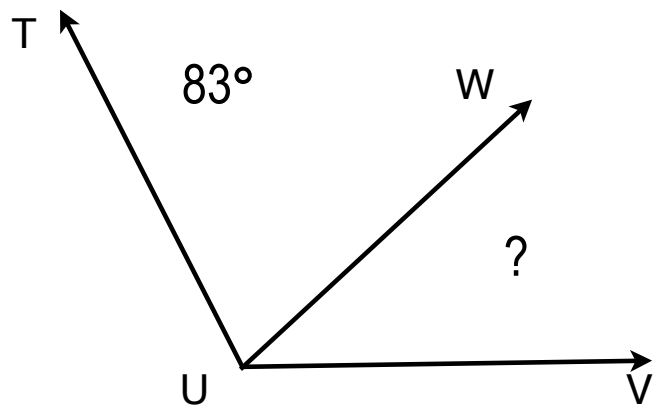
Math Assessment
Performance Check

4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
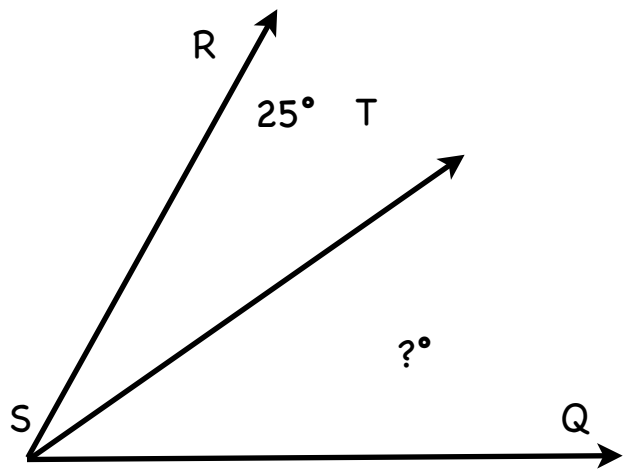
Name _____   Date _____

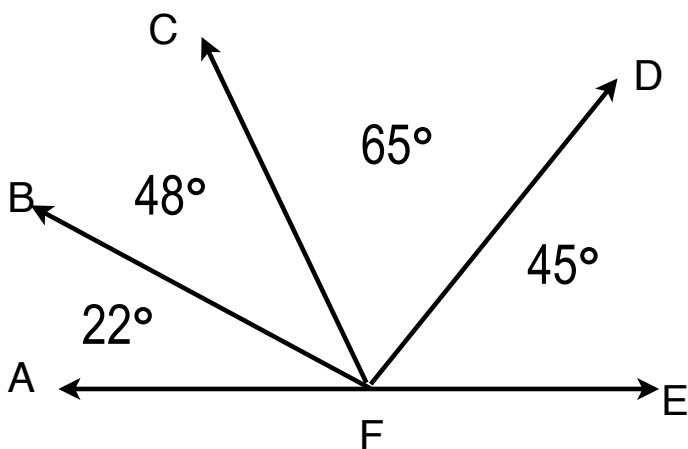1. Elmer got a triangle piece of chocolate. He wants to share it with his mother and sister. On the triangle ∠ABC measures 60°. When he splits the he wants to give his mother a larger piece. If Elmer splits the chocolate into 3 pieces, with one piece being larger than the others, what is a possible combination of angles of the pieces of chocolate? Explain your answer using a chart, models, pictures, words, or numbers.

A

60°

B   C
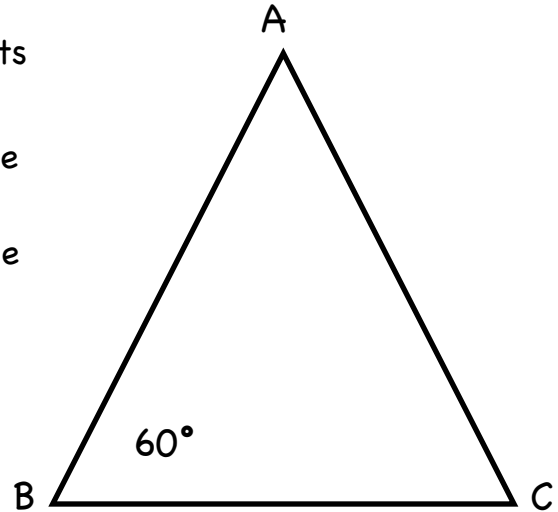
2. The switch on the control for Erin's electric race track has 4 positions. He noticed that 2 angles were formed by the switch (angle A and angle B). He noticed that the angles changed as he moved the switch. He recored the angle measurements on a chart. He ran out of time and did not measure angle B on the turbo setting. Without using a protractor, determine the measure of angle B on the turbo setting. Please explain how you got your answer using a chart, models, pictures, words, or numbers.

	∠A	∠B
low	30°	150°
medium	70°	110°
high	120°	60°
turbo	160°	?

high

medium

turbo

●low

Angle B

Angle A

Standards Achievement Graph
Measurement & Data

Name _____

100%						
90%						
80%						
70%						
60%						
50%						
40%						
30%						
20%						
10%						
0%						

4.MD.1	**4.MD.2**	**4.MD.3**	**4.MD.4**	**4.MD.5**	**4.MD.6**	**4.MD.7**
Converting measurement	Problem solving and measurement	Area and perimeter	Data on a line plot	Angles and circles	Measuring angles	Additive angle measurement

Standards Achievement Graph
Measurement & Data

Name _____

100%	
90%	
80%	
70%	
60%	
50%	
40%	
30%	
20%	
10%	
0%	

Skills	Performance	Skills	Performance	Skills	Performance	Skills	Performance	Skills	Performance	Skills	Performance	Skills	Performance

4.MD.1
Converting measurement

4.MD.2
Problem solving and measurement

4.MD.3
Area and perimeter

4.MD.4
Data on a line plot

4.MD.5
Angles and circles

4.MD.6
Measuring angles

4.MD.7
Additive angle measurement

Standards Achievement Chart
Measurement & Data

Name _____

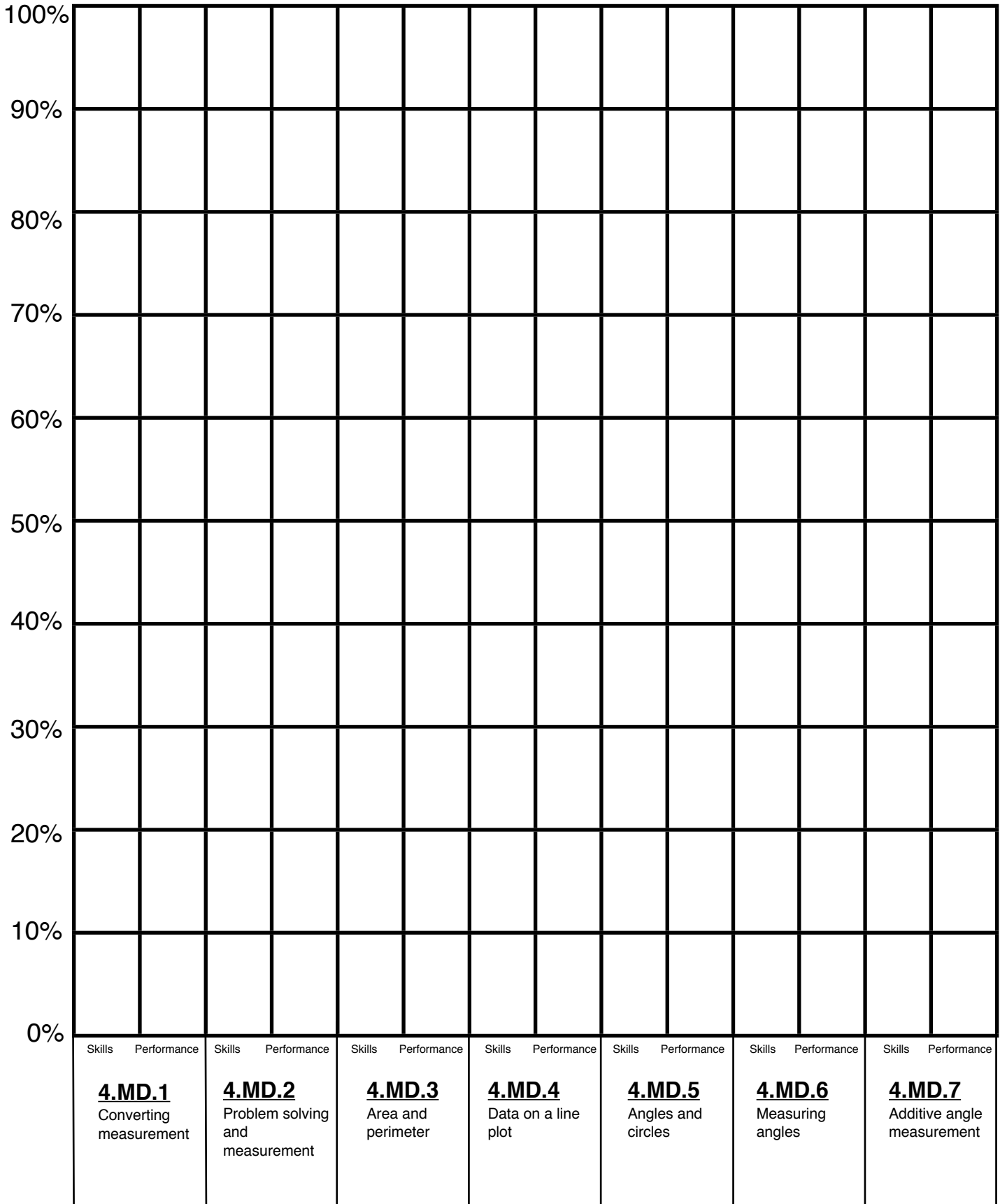| Standard	Score
4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.	
4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	
4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	
4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.	
4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.	
4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	

Notes_____

_____

_____

_____

Standards Achievement Chart
Measurement & Data

Name _____

Standard	Skills Score	Performance Score
4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.		
4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.		
4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.		
4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.		
4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.		
4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.		
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.		

Notes_____

_____

_____

_____

Class Achievement Chart
Measurement & Data

Student Name	4.MD.1	4.MD.2	4.MD.3	4.MD.4	4.MD.5	4.MD.6	4.MD.7
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							
23.							
24.							
25.							
26.							
27.							
28.							

Measurement and Data Answer Key

4.MD.1 Skills Check
1. 72 inches

Feet	Inches
1	12
2	24
3	36
4	48
5	60
6	72

2. 4,000 grams

Kilograms	Grams
1	1,000
2	2,000
3	3,000
4	4,000

3. 55 ounces
4. 270 seconds

4.MD.1 Performance Check
1. 3 gallons = 48 cups
   3 gallons = 24 pints
   3 gallons = 12 quarts

2. Josh is incorrect. Billy caught the bigger fish. Josh's fish weighed 71 ounces. Explanations will vary. Some students may draw a picture, use a multiplication and addition algorithm, etc.

4.MD.2 Skills Check
1. Each friend would get 10 inches of yarn
2. $1.10 change
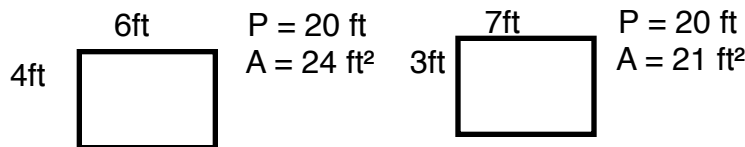3. 3,250 more milliliters
4. 12 quarts

4.MD.2 Performance Check
1. $5.60 change
Explanations will vary. Some students may draw a picture, use a multiplication and addition algorithm, etc.
2. Miquel is incorrect. Alice's treehouse is 89 inches off the ground and Miquel's is only 75 inches off the ground.
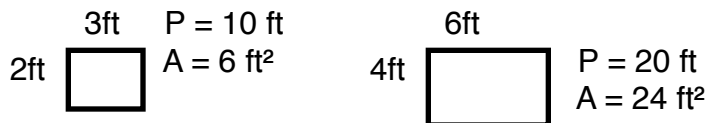
4.MD.3 Skills Check
1. 300 in²
2. 34cm
3. 84 ft²
4. 34 ft

4.MD.3 Performance Check
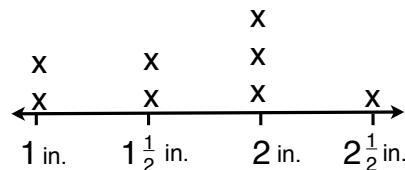1. No, the area of a rectangle is not always the same if the perimeter is the same. Explanations will vary. Some students may draw a picture, use a multiplication and addition algorithm, etc/ Answers will vary. See the sample drawing below.

6ft   P = 20 ft   A = 24 ft²   4ft
7ft   P = 20 ft   A = 21 ft²   3ft

2. The area does not always double. See the sample example below.

3ft   P = 10 ft   A = 6 ft²   2ft
6ft   P = 20 ft   A = 24 ft²   4ft

Explanations will vary. Some students may draw a picture, use a multiplication and addition algorithm, etc/ Answers will vary. See the sample drawing below.

4.MD.4 Skills Check
1. 4 more
2. 5 more
3. 9 more
4. 10 students

4.MD.4 Performance Check
1.

```
                              x
          x       x           x
          x       x           x           x
    <-----|-------|-----------|-----------|----->
        1 in.   1 1/2 in.    2 in.     2 1/2 in.
```

3.MD.4

2. 9 more students

Measurement and Data Answer Key

4.MD.5 Skills Check

1. 80°
2. 170°
3. 25°
4. 180°

4.MD.5 Performance Check

1. The angle of each piece is 120°. Answers will vary, but students should relate how they divide 360° (the number of degree in a circle) by 3 (the number of equal pieces). They may use numbers, pictures, models, etc.
2. Answers will vary.
   The angle of the slices would be equal because a circle has 360° regardless of the size of the circle. Students may use numbers, pictures, models, etc.

4.MD.6 Skills Check

1. 45°
2. 110°
3. 80°
4. 145°

4.MD.6 Performance Check

1. Answers will vary with the larger and smaller angle

45°

2. Answers will vary with the larger and smaller angle

120°
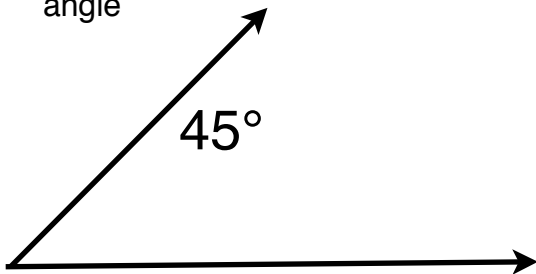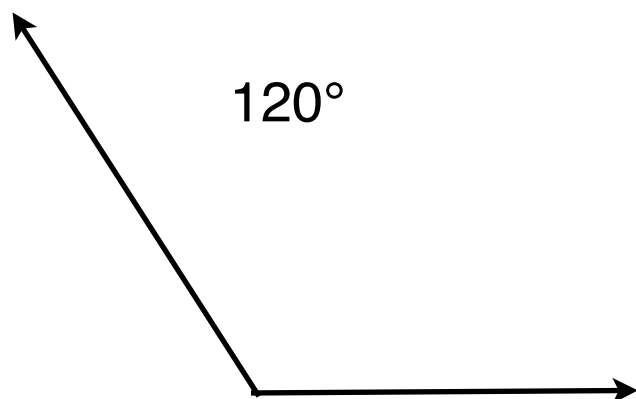
4.MD.7 Skills Check

1. ∠LMO = 125°
2. ∠TSQ = 35°
3. ∠CFE = 110°
4. ∠WUV = 42°

4.MD.7 Performance Check

1. Answers may vary, but must add up to 60° with one measurement being larger than the rest. Students may explain with pictures, a chart or table, a number sentence, etc.
1. 20° is the measure of angle B on the turbo setting. Explanations may vary, but the student needs to include that the the bottom portion of the switch is 180° if you know the measure of 2 angle you can find the other because angle measure is additive

Other 4th Grade Common Core Products

4th Grade Common Core Math Vocabulary

http://www.teacherspayteachers.com/Product/4th-Grade-Common-Core-Math-Vocabulary

4th Grade Common Core ELA Ultimate Vocabulary Resource

http://www.teacherspayteachers.com/Product/4th-Grade-Common-Core-ELA-Ultimate-Vocabulary-Resource

Seasonal Units and Game Packs

http://www.teacherspayteachers.com/Store/Math-Mojo/Category/Holiday-Seasonal

Common Core 4th Grade Math Task Cards Mega Bundle - All Domains and Standards

http://www.teacherspayteachers.com/Product/Common-Core-4th-Grade-Math-Task-Cards-Mega-Bundle-All-Domains-and-Standards

Fundamental Fraction and Decimal Games

http://www.teacherspayteachers.com/Product/FUNdamental-Fraction-and-Decimal-Games

Fun Friday Math Games

http://www.teacherspayteachers.com/Product/Fun-Friday-Math-Games-Quarter-1

Common Core Math Standards Packs

www.teacherspayteachers.com/Store/Math-Mojo/Category/Common-Core-Math-Standards-Packs-

4th Grade Common Core Review Game

http://www.teacherspayteachers.com/Product/4th-Grade-Common-Core-Math-Review-Game-Mega-Bundle-All-Domains-and-Standards

Fundamental Geometry Games

http://www.teacherspayteachers.com/Product/FUNdamental-Geometry-Games

The Fine Print

Thank You!

Thank you for purchasing this product! I specialize in Common Core resources, math games, and specialty units. If you like this product please visit my store at.

www.teacherspayteachers.com/Store/Math-Mojo

Follow me on Teachers Pay Teachers and visit my store often! I add new items frequently!