



4th
Basic

5th
Advanced

Helping With Math

USA
GRADES

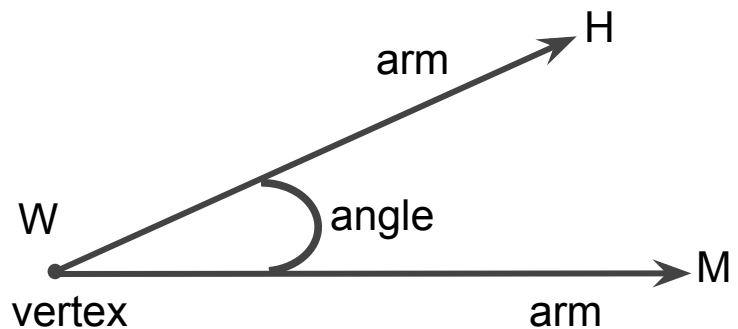
Angle Measurements

Suitable for students
aged 8-10



This pack is suitable for learners aged 8-10 years old or 4th to 5th graders (USA). The content covers fact files and relevant basic and advanced activities involving angle measurements.

In geometry, an angle can be defined as the figure formed by two rays meeting at a common endpoint called vertex. Angle measures the amount of turn of its rays in degrees.



This is angle HWM or $\angle HWM$.

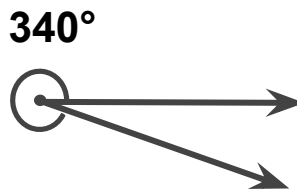
- **Arms:**
 - The two rays joining to form an angle are called arms of an angle. Here, WH and WM are the arms of the $\angle HWM$.
- **Vertex:**
 - The common end point at which the two rays meet to form an angle is called the vertex. Here, the point W is the vertex of $\angle HWM$.



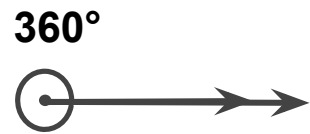
TYPES OF ANGLES BASED ON MEASUREMENTS



Straight Angle



Reflex Angle

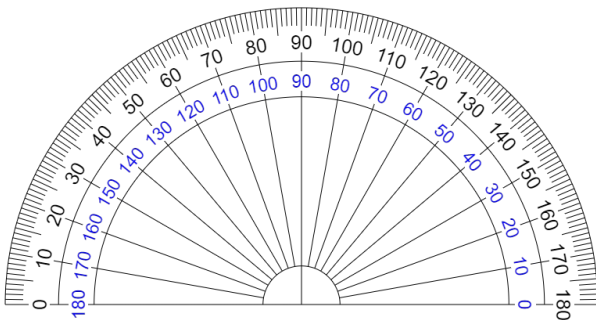


Complete Angle

REMEMBER!

- ★ **Acute Angles:** angles that are smaller than 90°
- ★ **Right Angles:** angles that measure exactly 90°
- ★ **Obtuse Angles:** angles that measure more than 90° but less than 180° .
- ★ **Straight Angles:** angles that measure exactly 180°
- ★ **Reflex Angles:** angles that measure more than 180° but less than 360°
- ★ **Full Rotation:** angles that measure exactly 360°

DRAWING ANGLES USING PROTRACTOR

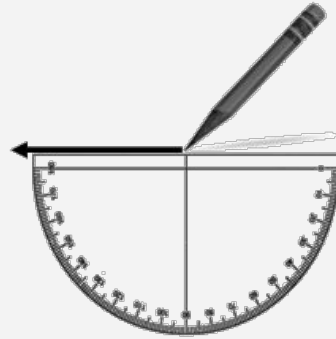


Protractor is an instrument for measuring angles, typically in the form of a flat semicircle marked with degrees along the curved edge.

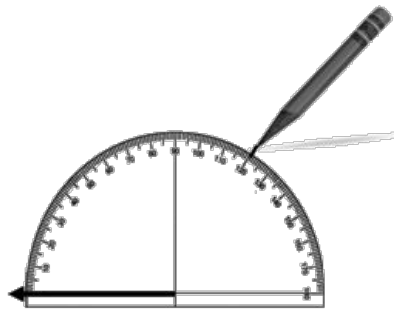


DRAWING ANGLES USING A PROTRACTOR

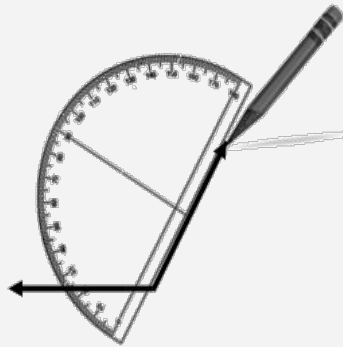
1. Begin by using the protractor's straight edge to draw the first ray.



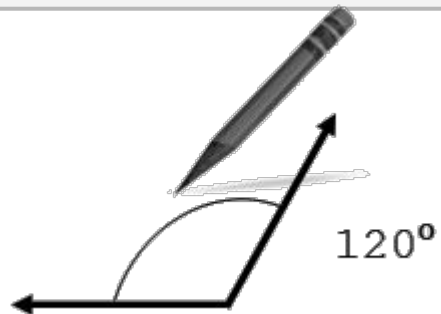
2. Line up the endpoint of the ray with the crossed lines on the straight edge of the protractor. Follow the numbers on the curve and make a mark by the number of the angle you want to draw.



3. Use the straight edge to connect the mark with the endpoint of the first ray.



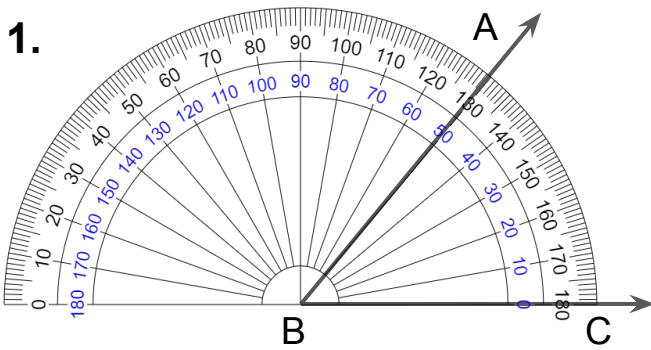
4. Label the angle with the correct measurement.



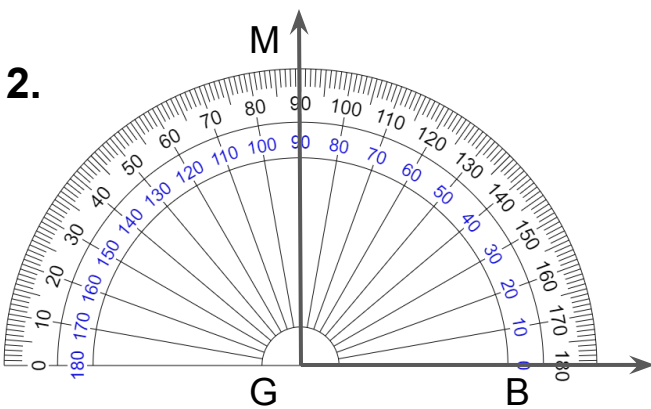
MEASURING ANGLES USING A PROTRACTOR

Measuring Angles Using a Protractor

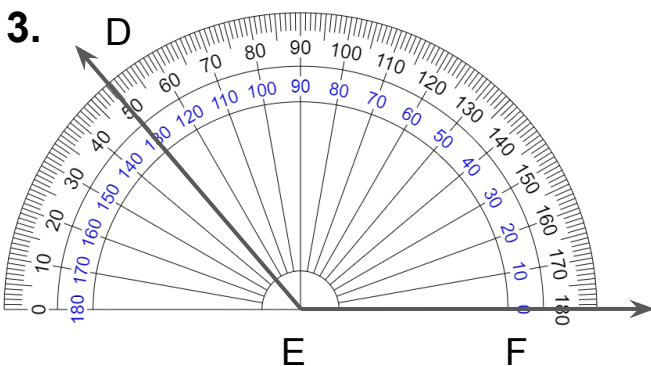
1. Identify the vertex, or center point, of the angle.
2. Place the origin/center-point of the protractor over the vertex.
3. Line up the bottom edge of the protractor with one of the edges, or rays of the angle.
4. Read the measurement of the angle.



Name of the angle: _____
Measure of the Angle: _____
Classification of Angle: _____



Name of the angle: _____
Measure of the Angle: _____
Classification of Angle: _____



Name of the angle: _____
Measure of the Angle: _____
Classification of Angle: _____



TABLE OF ACTIVITIES

Ages 8-9 (Basic)		<u>4th Grade</u>
1	Angle Ship	
2	Cruise Ship Placement	
3	The Cruise Ship Passengers	
4	Identifying Directions	
5	T or F at the Cruise Ship	
Ages 9-10 (Advanced)		<u>5th Grade</u>
6	Cabin Crew at Work	
7	The Sailor Man	
8	The Working Ship Man	
9	DIY Angles	
10	Captain's Wheel	



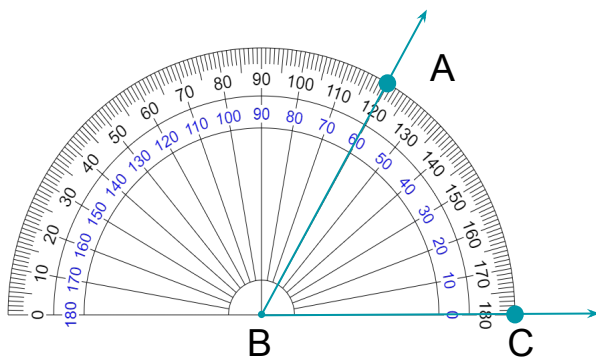
ANGLE SHIP

G4
Basic

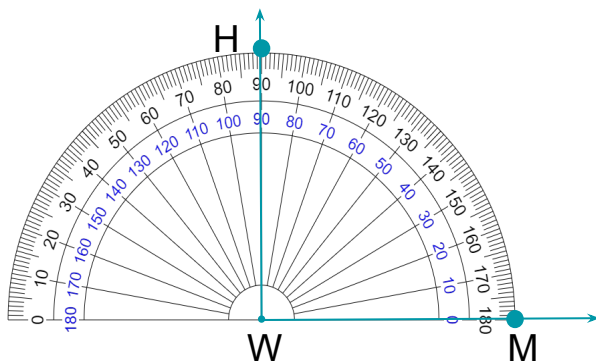
Carefully examine each angle below. Using the illustration, complete the details of the table.

	Item number 1	Item number 2
Name of the Angle		
Name of Arms		
Name of the Vertex		
Angle measure		

1.



2.

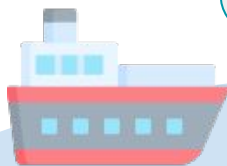


CRUISE SHIP PLACEMENT

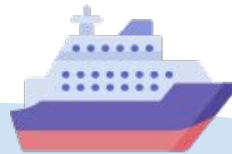
G4
Basic

Match the following angle measures to its corresponding illustration. Write the letter of your choice on the box.

<div data-bbox="147 440 239 533" style="border: 1px solid black; width: 65px; height: 48px; margin-bottom: 20px;"></div> <div data-bbox="214 579 571 811"> </div> <p>1.</p>	<div data-bbox="1192 440 1285 533" style="border: 1px solid black; width: 65px; height: 48px; margin-bottom: 20px;"></div> <div data-bbox="785 444 1242 811"> </div> <p>2.</p>
<div data-bbox="185 927 628 1294"> </div> <p>3.</p> <div data-bbox="128 1246 221 1342" style="border: 1px solid black; width: 65px; height: 50px; margin-top: 20px;"></div>	<div data-bbox="813 927 1170 1294"> </div> <p>4.</p> <div data-bbox="1206 1246 1299 1342" style="border: 1px solid black; width: 65px; height: 50px; margin-top: 20px;"></div>



A. 95°



C. 35°



B. 65°



D. 100°



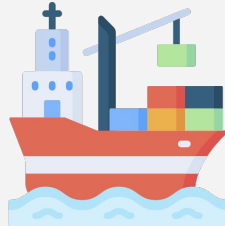
THE CRUISE SHIP PASSENGERS

G4
Basic

If the angle measurements are to be considered passengers of each cruise ship, which among them has to be on board for each column?



Acute angles



Obtuse angles



Reflex angles



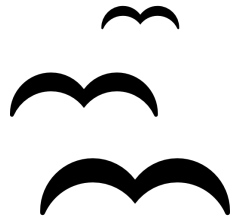
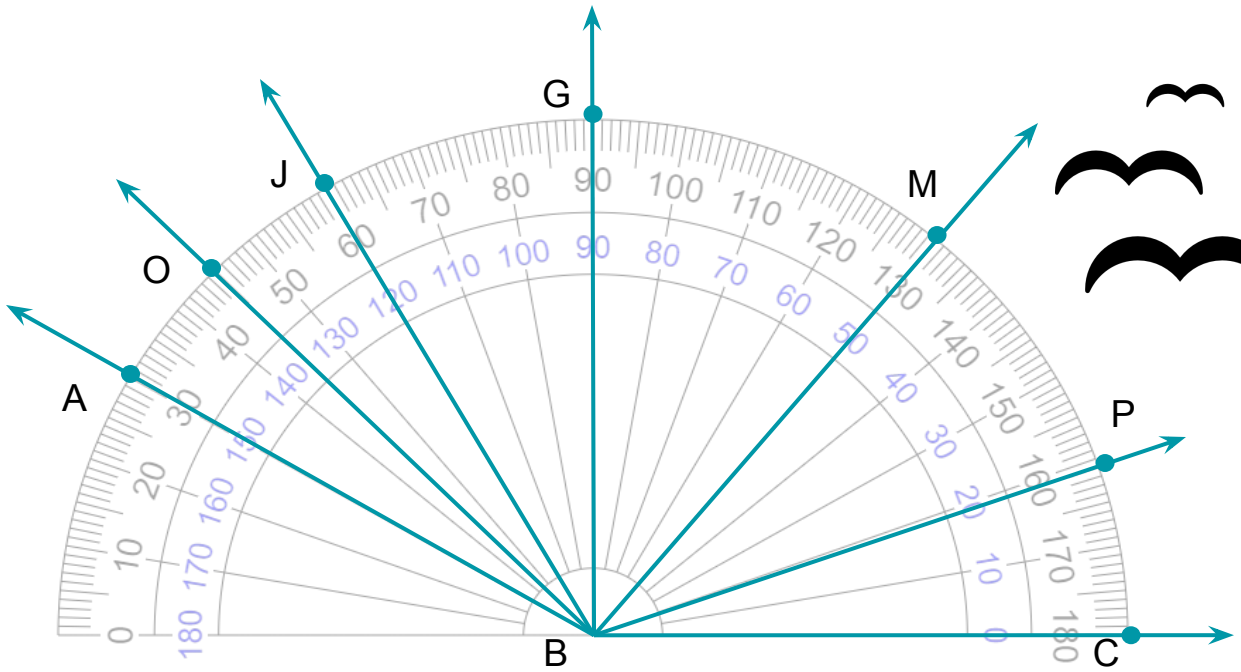
89°	12°	91°	200°	10°
150°	213°	67°	21°	185°
105°	342°	11°	100°	190°
300°	275°	30°	60°	103°



IDENTIFYING DIRECTIONS

G4
Basic

Help the captain of the HWM ship identify the name and the measurement of each angle.



Angle Name	Angle Measure



T OR F AT THE CRUISE SHIP

G4
Basic

Read and understand each statement below. Help the captain of HWM Cruise Ship sort out which of them are TRUE or FALSE. Write T if is a correct statement. Otherwise, replace the underlined word/s to make it valid.

1. Acute angle is a type of angle whose measurement is less than 90° .

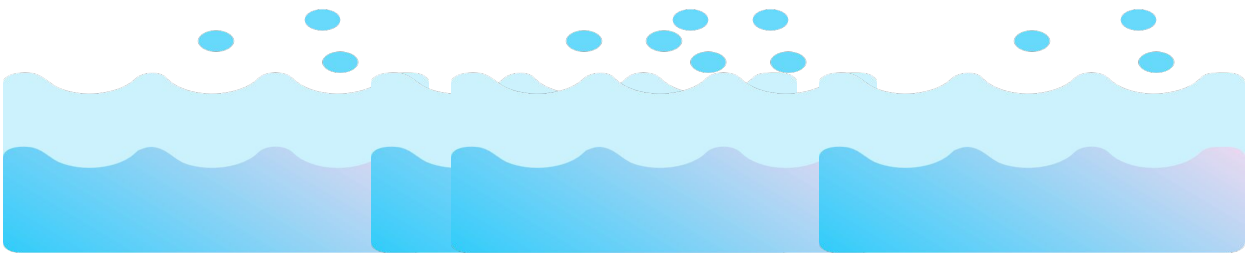
2. Any angle whose measurement is ranging from 100° to 175° are considered obtuse.

3. An angle whose measurement is 250° is an acute angle.

4. All right angles are more than or equal to 90° .

5. 89.5° is an example of reflex angle.

6. The vertex of an angle is where the two arms meet.

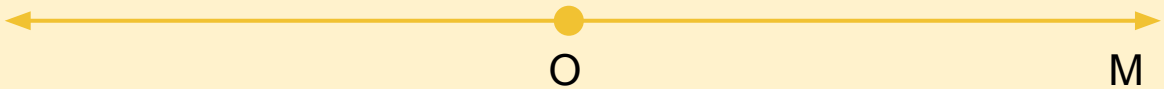


CABIN CREW AT WORK

G5
Advanced

Make sure to assist these cabin crew at their work space by tracing the angle that they are heading. A starting point (vertex) is already made for you.

Note: You will be needing your protractor to accomplish this activity.



Draw a 45° angle.



Illustrate a 110° angle.



Construct an 87° angle.



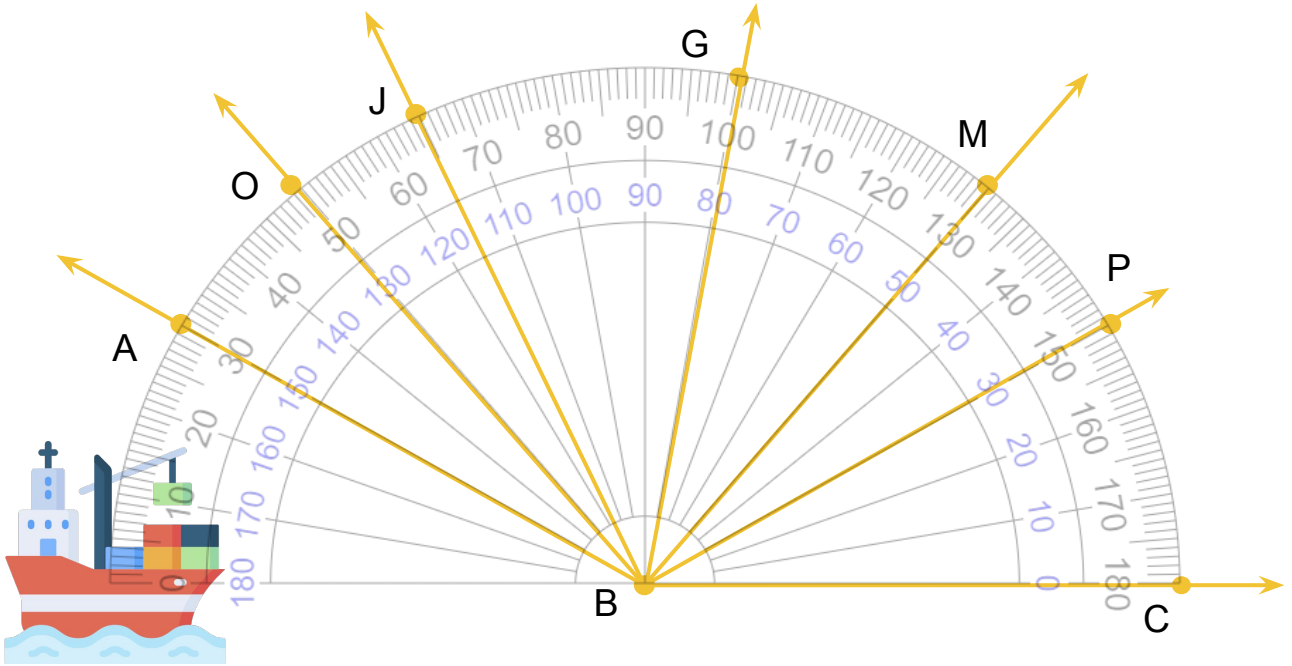
Show a 104° angle.



THE SAILOR MAN

G5
Advanced

Help Sam the sailor man identify the measurement of each angle. By the way, he needs a protractor to do that.



Write your answers here.



THE WORKING SHIP MAN

G5
Advanced

Help Allan, the ship man construct the following angle measures. Use a protractor to a more accurate output.

1. 67°

2. 105°



3. 230°

4. 12°

5. 183°

6. 300°



7. 360°

8. 158°



DIY ANGLES

G5
Advanced

Another task was given to Allan, the ship man. This time, he was asked to construct the angles described below.

1. Let point P as the vertex of $\angle MPQ$. The measure of $\angle MPQ$ is 100° . Draw ray PS within $\angle MPQ$. You now formed two adjacent angles. If $\angle MPS = 48^\circ$, what is the measurement of $\angle SPQ$?

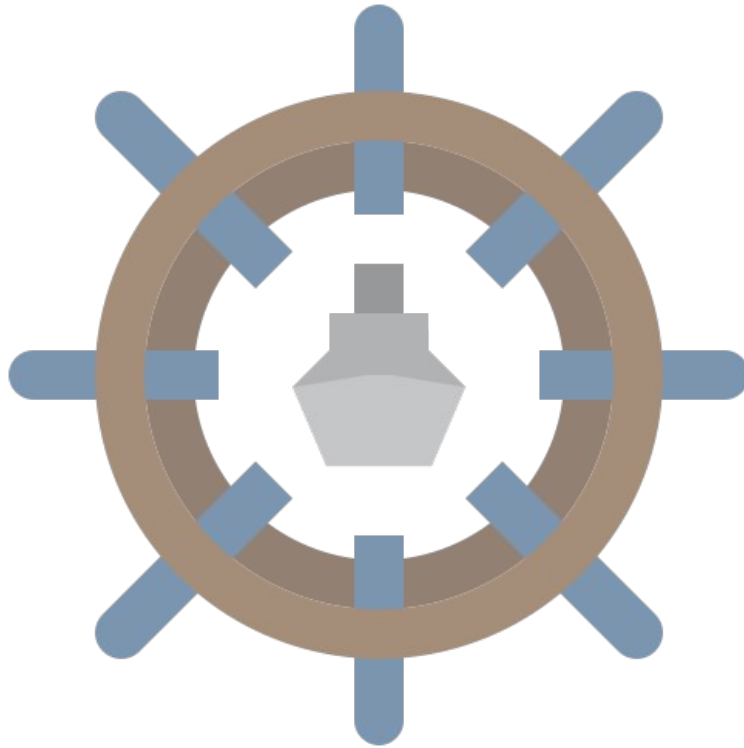
2. Using the same given angle $\angle MPQ = 100^\circ$, create another set of adjacent angles. But this time, make three adjacent angles. (Answers may vary per learner)



CAPTAIN'S WHEEL

G5
Advanced

Given below is the Captain's wheel. Using your protractor, measure each angle that you can see. Then add those measures. What did you find out about the total measure?



Write your findings here (at least 5 sentences).



ANSWER GUIDE

Activity 1

	Item number 1	Item number 2
Name of the Angle	Angle ABC	Angle HWM
Name of Arms	Side BA Side BC	Side WH Side WM
Name of the Vertex	Angle B	Angle W
Angle measure	60 degrees	90 degrees

Activity 2

1. C 2. D 3. A 4. B

Activity 3

Acute angles: 89, 12, 10, 21, 11, 30, and 60

Obtuse angles: 91, 150, 105, 100, 103

Reflex angles: 200, 185, 342, 190, 300, 275

Activity 5

1. T 2. T 3. Reflex angle
4. Equal 5. Acute 6. T

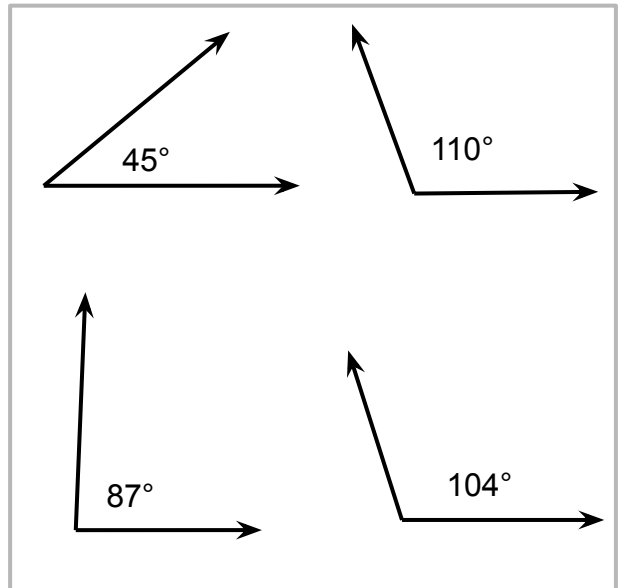


ANSWER GUIDE

Activity 4

Angle Name	Angle Measure
CBP	20 degrees
CBM	50 degrees
CBG	90 degrees
CBJ	120 degrees
CBO	135 degrees
CBA	150 degrees

Activity 6



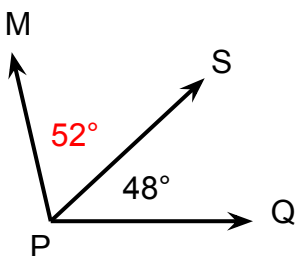
Activity 7

$$\begin{aligned} \angle CBP &= 30^\circ & \angle CBM &= 50^\circ & \angle CBG &= 100^\circ \\ \angle CBJ &= 115^\circ & \angle CBO &= 130^\circ & \angle CBA &= 150^\circ \end{aligned}$$

Activity 8

In this activity, learners' outputs are expected to vary visually but angle measurements must be accurate.

Activity 9



The second activity has answers that may vary per learner.

Activity 10

The sum of the angles is 360 degrees. Since the wheel is a circle, it is just right to have the angle measure as 360 degrees.



Copyright Notice

This resource is licensed under the [Creative Commons Attribution-NonCommercial 4.0](https://creativecommons.org/licenses/by-nc/4.0/) International license.

You are free to:

- **Share** — copy and redistribute the material in any medium or format
- **Adapt** — remix, transform, and build upon the material

Under the following terms:

- **Attribution** — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.
- **NonCommercial** — You may not use the material for commercial purposes.

For more information on this license, visit the following link:

<http://creativecommons.org/licenses/by-nc/4.0/>

Where possible, free-use images are sourced from online repositories such as Wikipedia and Wikimedia Commons. References and sources for images are provided in the speaker notes section of this document.

Thank you!



Thank you

Thank you so much for purchasing and downloading this resource.

We hope it has been useful for you in the classroom and that your students enjoy the activities.

For more teaching and homeschooling resources like this, don't forget to [come back](#) and download the new material we add every week!

Thanks for supporting **Helping With Math**. We can provide teachers with low-cost, high-quality teaching and homeschooling resources because of our loyal subscribers and hope to serve you for many years to come.

- The Entire Helping With Math Team :)

