LESSON MAKER PRO

Clockwise Angle Quest

Measure, add, and subtract angle turns.

GRADE 4 · 4.MD.C

CCSS.Math.Content.4.MD.C "Geometric measurement: understand concepts of angle and measure angles."

NAME _____ DATE _____

ANGLE TURNS

An angle measures the turn from one ray to another. A full turn is 360°, and a clock has 30° between neighboring hour marks. To find a smaller clock angle, count the spaces on the shorter path and multiply by 30°.

WORKED EXAMPLE

What is the measure of the smaller angle between the hands on the clock?



1. The minute hand points to 12, and the hour hand points to 2.
2. The shorter path has 2 hour spaces.
3. 2 times 30° = 60°.

Answer: 60°

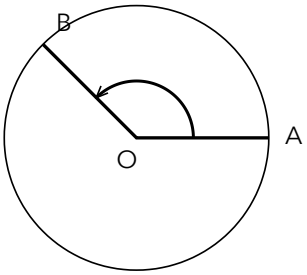
PRACTICE 6 problems

1 What is the measure of the smaller angle between the hands on the clock?



ANSWER _____

2 Use a protractor to measure the printed angle, then classify it. Place the center at O and read from ray OA.



Follow the marked counterclockwise turn

ANSWER _____

_____

3 What is the measure of the smaller angle between the hands on the clock?



ANSWER _____

4 A whole angle measures 155°. One part measures 25°. What is the measure of the other part?

ANSWER _____

5 A whole angle measures 90°. One part measures 35°. What is the measure of the other part?

ANSWER _____

6 Two adjacent angles measure 75° and 40°. What is the measure of the whole angle?

ANSWER _____

APPLY IT Show your work

1 Maya programs a robot to turn 140°. Then the robot turns back 45°. How many degrees is the robot turned from its starting direction now? On the back, use a protractor and straightedge to draw the final turn. Explain how its degree units relate to a full circle.

2 At dance rehearsal, a move has two adjacent turns. The first turn measures 105°, and the next turn measures 65°. What is the measure of the combined turn?

CHALLENGE One step up

Angles around a point make a full turn. Three of the angles measure 85°, 95°, and 70°. What is the measure of the fourth angle?

ANSWER KEY

Clockwise Angle Quest

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What is the measure of the smaller angle between the hands on the clock?	**150°**
2	Use a protractor to measure the printed angle, then classify it. Place the center at O and read from ray OA.	**135°; obtuse. Accept a measurement within 2°.**
3	What is the measure of the smaller angle between the hands on the clock?	**120°**
4	A whole angle measures 155°. One part measures 25°. What is the measure of the other part?	**130°**
5	A whole angle measures 90°. One part measures 35°. What is the measure of the other part?	**55°**
6	Two adjacent angles measure 75° and 40°. What is the measure of the whole angle?	**115°**

PART 2 · APPLY IT

1. **95° Construct95°;95 one-degree units out of360, or19/72 of a circle.** Subtract the turn back from the first turn: 140° - 45° = 95°.
2. **170°** Add the adjacent angle measures: 105° + 65° = 170°.

CHALLENGE

110°

Accept angle measures written with ° or with the word degrees. For the classification item, accept only obtuse.