

Grade 4 - Measuring and Drawing Angles - Answer Key

Common Core 4.MD.C.5, 4.MD.C.6, 4.MD.C.7 · maths-pdf.fr/en/

Each answer shows the reasoning, the calculation, and the final angle in bold. For protractor questions, the answer says which scale to read. For sketching problems, the answer shows the finished angle so you can compare it with your own drawing.

Grade 4 · Common Core State Standards: **4.MD.C.5, 4.MD.C.6, 4.MD.C.7**

Exercise 1 - Full turn

A full circle is split into 360 one-degree slices.

360°

Exercise 2 - Half turn

A half turn is half of a full turn: $360 \div 2 = 180$.

180°

Exercise 3 - Quarter turn

$360 \div 4 = 90$. A quarter turn makes a right angle.

90°

Exercise 4 - Three-quarter turn

One quarter is 90°, so three quarters is $3 \times 90 = 270$.

270°

Exercise 5 - Read the protractor

One ray is on 0. The other ray crosses the scale at 50. It is less than 90, so it is acute.

50°

Exercise 6 - A wider angle

The second ray crosses the scale at 130. It is greater than 90, so it is obtuse.

130°

Exercise 7 - Classify angles

1. 35° is less than 90: acute.
2. 90° is exactly 90: right.
3. 120° is more than 90: obtuse.
4. 72° is less than 90: acute.

acute, right, obtuse, acute

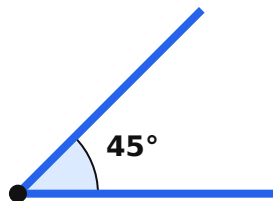
Exercise 8 - Angle between two rays

Subtract the two readings: $80 - 30 = 50$.

50°

Exercise 9 - Sketch a 45° angle

Draw a ray. Put the protractor center on its endpoint and mark 45 on the scale. Draw a second ray through the mark.

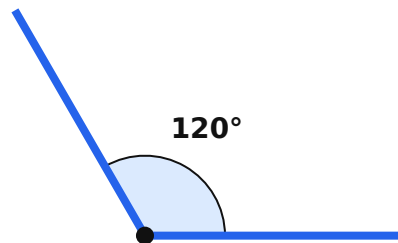


A 45° angle.

A 45° angle (acute)

Exercise 10 - Sketch a 120° angle

Draw a ray, line up the protractor, and mark 120 on the scale. Join the mark to the vertex.



A 120° angle.

A 120° angle (obtuse)

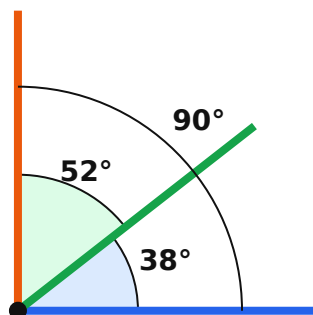
Exercise 11 - Add two angles

$$40 + 25 = 65.$$

65°

Exercise 12 - Unknown angle in a right angle

$$90 - 38 = 52. \text{ Check: } 38 + 52 = 90.$$



$$\text{Check: } 38 + 52 = 90.$$

52°

Exercise 13 - Unknown angle on a line

$180 - 115 = 65$. Check: $115 + 65 = 180$.

65°

Exercise 14 - Three parts

$30 + 45 = 75$, then $75 + 25 = 100$.

100° (obtuse)

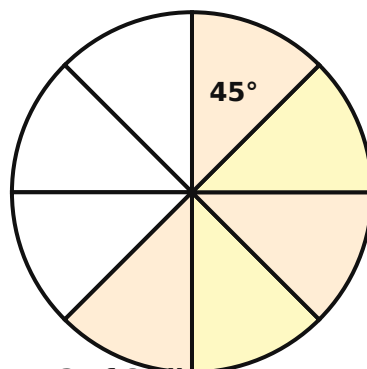
Exercise 15 - Clock hands

From 12 to 4 is 4 numbers: $4 \times 30 = 120$.

120°

Exercise 16 - Pizza slices

$3 \times 45 = 135$.



3 of 8 slices eaten

A pizza with 8 equal slices.

135°

Exercise 17 - Opening a door

$70 + 35 = 105$. Since 105 is greater than 90, the angle is obtuse.

105°, obtuse

Exercise 18 - Turning a robot

A quarter turn is 90° . Then $90 + 45 = 135$.

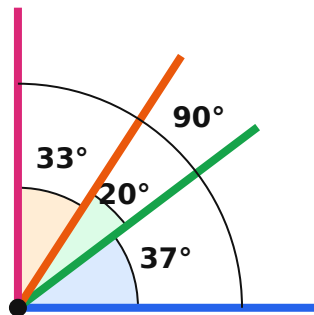
A half turn is 180° : $180 - 135 = 45$.

135°; 45° more

Exercise 19 - Picture frame brace

First unknown: $90 - 37 = 53$.

Second unknown: $53 - 20 = 33$.



$$37 + 20 + 33 = 90.$$

53° and 33°

Exercise 20 - Sprinklers

Full circle: 360° . B must sweep $360 - 210 = 150$.

If B sweeps 90° , the dry part is $150 - 90 = 60$.

150°; 60° dry