LESSON MAKER PRO

# Angle Detective

*Find missing angles in figures and designs.*

**GRADE 6 · 6.GM.3**

**6.GM.3** "Understand and use relationships between angles in geometric figures. Solve problems using the relationships between the angles (vertical, complementary, and supplementary) formed by intersecting lines..."

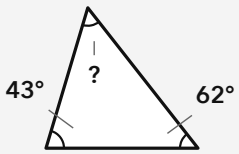
NAME _____ DATE _____

## ANGLE RULES

The three angles inside a triangle add to 180°. Two angles that make a right angle add to 90°. Two angles that make a straight angle add to 180°.

## WORKED EXAMPLE

Find the angle marked ?.

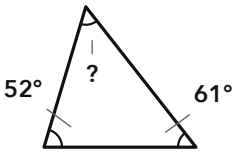



1. 43° + 62° = 105°
2. 180° - 105° = 75°

**Answer: 75°**

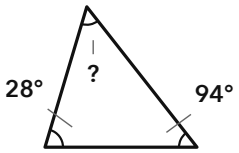
## PRACTICE 6 problems

**1** Find the angle marked ?.



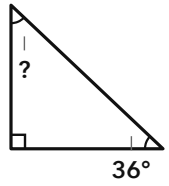

ANSWER _____

**2** Find the angle marked ?.



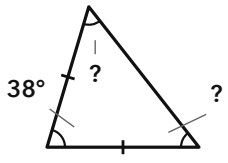

ANSWER _____

**3** Find the angle marked ?.




**ANSWER** _____

**4** The two angles marked ? are equal. Find the measure of each one.



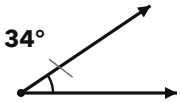

**ANSWER** _____

**5** The angle shown and x make a straight angle. Find x.




**ANSWER** _____

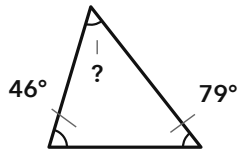
**6** The angle shown and x make a right angle. Find x.




**ANSWER** _____

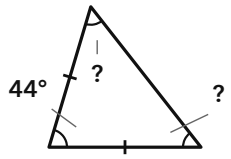
## APPLY IT Show your work

**1** A skate park designer sketches a triangular brace for a ramp. Find the angle marked ? on the sketch.




**ANSWER** _____

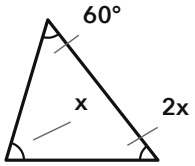
**2** A team makes a triangular banner with two equal bottom angles. Find the measure of each bottom angle.




**ANSWER** _____

## CHALLENGE One step up

Find x and all three angle measures. Show an equation.




WORK SPACE AND ANSWER

**ANSWER KEY**

# Angle Detective

**GRADE 6 · 6.GM.3**

## PART 1 · PRACTICE

| # | PROBLEM | ANSWER |
|---|---|---|
| 1 | Find the angle marked ?. | **67°** |
| 2 | Find the angle marked ?. | **58°** |
| 3 | Find the angle marked ?. | **54°** |
| 4 | The two angles marked ? are equal. Find the measure of each one. | **71° each** |
| 5 | The angle shown and x make a straight angle. Find x. | **57°** |
| 6 | The angle shown and x make a right angle. Find x. | **56°** |

## PART 2 · APPLY IT

1. **55°** The two known angles add to 125°. Subtract 125° from 180°.
2. **68° each** Subtract 44° from 180° to get 136°. Divide 136° equally between the two bottom angles.

## CHALLENGE

**x + 2x + 60° = 180°, so 3x = 120° and x = 40°. The angles are 40°, 80°, and 60°.**

Accept answers without degree symbols when the measures are clear. For the challenge, accept any equivalent equation that uses a total of 180°.