

WA4MMGAN1

Two-dimensional space and structures

Core + Challenge

# Classifying Angles

I can classify angles as acute, right, obtuse or straight.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: / 53

## Key idea

**Types of angles:** **acute** (less than  $90^\circ$ ), **right angle** (exactly  $90^\circ$ ), **obtuse** (between  $90^\circ$  and  $180^\circ$ ), **straight** (exactly  $180^\circ$ ).

E.g. a  $45^\circ$  angle is acute; a  $120^\circ$  angle is obtuse.

## A Fluency *practise the skill*

/16 marks

Classify each angle as acute, right, obtuse or straight.

1.  $45^\circ$  \_\_\_\_\_2.  $90^\circ$  \_\_\_\_\_3.  $120^\circ$  \_\_\_\_\_4.  $180^\circ$  \_\_\_\_\_5.  $30^\circ$  \_\_\_\_\_6.  $150^\circ$  \_\_\_\_\_7.  $75^\circ$  \_\_\_\_\_8.  $100^\circ$  \_\_\_\_\_9.  $10^\circ$  \_\_\_\_\_10.  $165^\circ$  \_\_\_\_\_11.  $89^\circ$  \_\_\_\_\_12.  $91^\circ$  \_\_\_\_\_13.  $179^\circ$  \_\_\_\_\_14.  $1^\circ$  \_\_\_\_\_15.  $135^\circ$  \_\_\_\_\_16.  $60^\circ$  \_\_\_\_\_

## B Core *apply the skill to problems*

/21 marks

1

A door is opened so that the angle between the door and the wall measures  $95^\circ$ . Classify this angle.

[3 marks]

Answer: \_\_\_\_\_

2

Two hands of a clock form an angle. (a) At 3 o'clock, what type of angle do the hands form? (b) What is its measure in degrees?

[4 marks]

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Answer: \_\_\_\_\_

**3**

A ramp makes an angle of  $15^\circ$  with the ground. Classify this angle.

**[3 marks]**

Answer: \_\_\_\_\_

**4**

A pair of scissors is opened so the blades form an angle of  $170^\circ$ . (a) Classify this angle. (b) How many more degrees would make it a straight angle?

**[4 marks]**

Answer: \_\_\_\_\_

**5**

A book is opened flat on a table, forming an angle of  $180^\circ$  between its two covers. Classify this angle.

**[3 marks]**

Answer: \_\_\_\_\_

**6**

A skateboard ramp is built at an angle of  $40^\circ$  to the ground. (a) Classify this angle. (b) How many more degrees would make it a right angle?

**[4 marks]**

Answer: \_\_\_\_\_

**C****Reasoning** *explain, justify and check***/9 marks****1**

Explain the difference between an acute angle and an obtuse angle.

**[2 marks]**

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2

A student says a  $90^\circ$  angle is acute because it "looks pointy". Explain why the student is incorrect.

[2 marks]

3

Explain why a straight angle measures exactly  $180^\circ$ .

[2 marks]

4

A student says any angle bigger than a right angle must be a straight angle. Explain why this is incorrect, using an example of an obtuse angle.

[3 marks]

D

**Challenge** *multi-step and problem-solving*

/7 marks

1

An angle is three times the size of a  $25^\circ$  angle. What is its measure, and is it acute, right, obtuse or straight?

[2 marks]

Answer: \_\_\_\_\_

2

Two angles add up to a straight angle ( $180^\circ$ ). If one angle is  $65^\circ$ , what is the other, and what type is it?

[2 marks]

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**Answer:** \_\_\_\_\_**3**

An angle is obtuse, a whole number of degrees, and is exactly  $10^\circ$  more than a right angle. What is the angle?

**[3 marks]**

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**Answer:** \_\_\_\_\_

### How did I go?

Fluency \_\_\_\_/16   Core \_\_\_\_/21   Reasoning \_\_\_\_/9   Challenge \_\_\_\_/7   **Total \_\_\_\_/53**

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