MATHEMATICS · GRADES 4-6

Acute, right, obtuse, and straight angles

Difficulty level: Intermediate

Mathematics: Grades 4-6

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Overview of the concept

This is how you describe the corners you see every day. The square corner of a book is a right angle, a laptop screen opened partway makes a wider obtuse angle, and a road running straight ahead is a straight angle. Once you can name each kind at a glance, you can describe any corner or turn without measuring it.



Rule

Angles: under 90 degrees is acute, exactly 90 degrees is right, between 90 and 180 degrees is obtuse, and exactly 180 degrees is straight.

Compare the angle with 90 degrees first, then with 180 degrees, to find its class.

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Worked examples

EXAMPLE 1

Q Sort: 40 degrees, 90 degrees, 110 degrees, 180 degrees



SOLUTION

40: acute (under 90)

90: right

110: obtuse (90 to 180)

180: straight

Under 90 degrees is acute: 40 degrees.

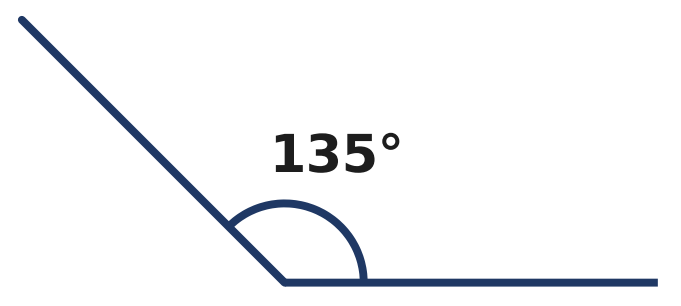
Exactly 90 degrees is right.

Between 90 and 180 is obtuse: 110 degrees. Exactly 180 is straight.

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EXAMPLE 2

Q Which class is 135 degrees?



SOLUTION

90 < 135 < 180

Between right and straight

-> Obtuse

Compare with 90: 135 is bigger than 90.

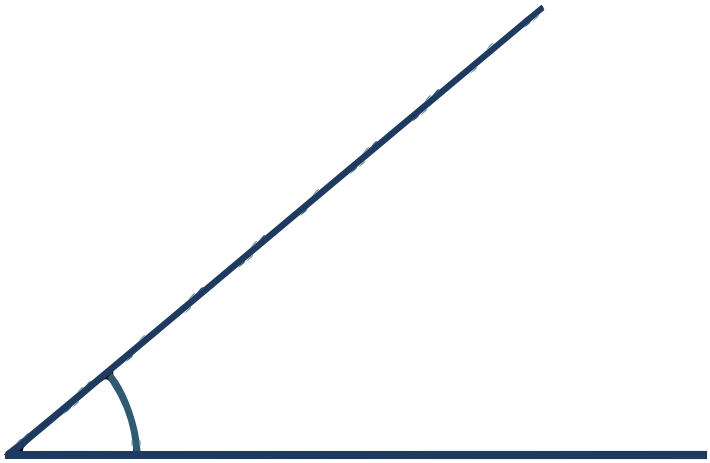
Compare with 180: 135 is smaller than 180.

Between 90 and 180 means obtuse.

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Practice questions

1 A laptop screen is tilted back. Look at the angle in the diagram. What type of angle is it?



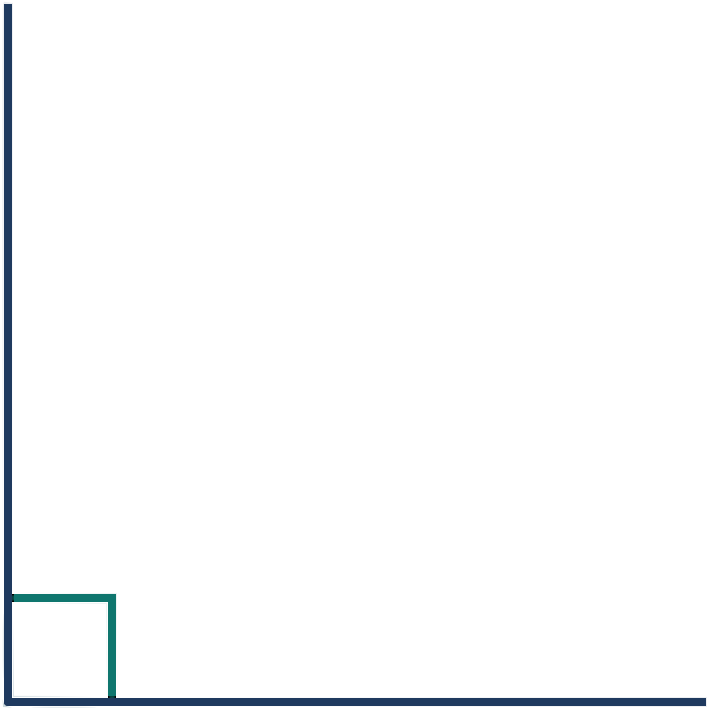
- **A** Acute
- **B** Right
- **C** Obtuse
- **D** Straight

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2

A book page has a square corner. Look at the angle in the diagram. What type of angle is it?



A Acute

B Right

C Obtuse

D Straight

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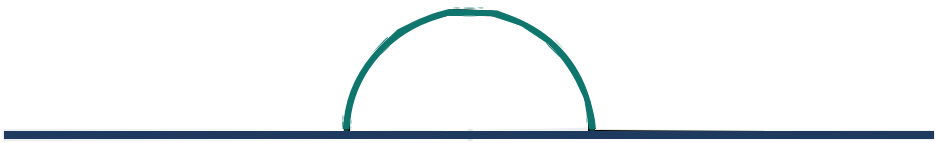
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3 An angle measures 135 degrees. What type of angle is it?

- A Acute
- B Right
- C Obtuse
- D Straight

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4 A road runs straight ahead. Look at the angle in the diagram. What type of angle is it?



- A Acute
- B Right
- C Obtuse
- D Straight

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5

Which of these angles is acute?

A 45 degrees

B 90 degrees

C 120 degrees

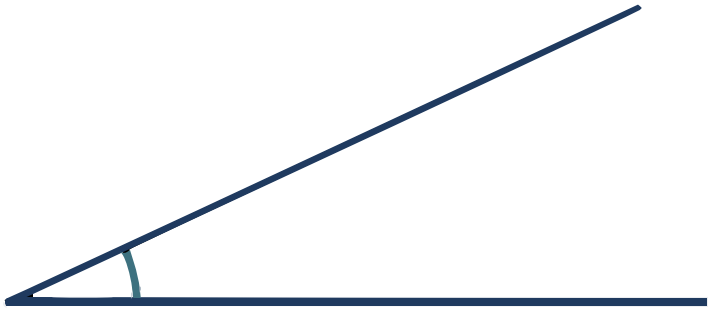
D 180 degrees

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6 **The hands of a clock make a narrow angle. Look at the angle in the diagram. What type of angle is it?**



A Acute

B Right

C Obtuse

D Straight

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7 Which is larger, an obtuse angle or a right angle?

- A Obtuse angle
- B Right angle
- C They are the same size
- D It depends on the angle

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8 Put these angles in order from smallest to largest: 170 degrees, 30 degrees, 90 degrees, 100 degrees.

- A 30 degrees, 90 degrees, 100 degrees, 170 degrees
- B 170 degrees, 100 degrees, 90 degrees, 30 degrees
- C 90 degrees, 30 degrees, 100 degrees, 170 degrees
- D 30 degrees, 100 degrees, 90 degrees, 170 degrees

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9 True or false: an obtuse angle is bigger than a straight angle.

- A True
- B False

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10 How many degrees is a straight angle?

- A 90 degrees
- B 180 degrees
- C 270 degrees
- D 360 degrees

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ANSWER KEY

1. Acute

2. Right

3. Obtuse

4. Straight

5. 45 degrees

6. Acute

7. Obtuse angle

8. 30 degrees, 90 degrees, 100 degrees, 170 degrees

9. False

10. 180 degrees

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