Write your name, centre number and candidate number in the boxes below.

Surname	Other names

Centre number | | | | | |

Candidate number | | | | |

STEM | Exam Builder

Angles

Time allowed: 40 minutes

Subject code **0580**

Mathematics

Questions from Paper 1, Paper 2, Paper 3 and Paper 4

You must have: a ruler marked in centimetres and millimetres, a protractor, compasses, a pen, an HB pencil and an eraser.
You may use a calculator.

Total marks

/ 31

Instructions

- Answer every question in the space provided on this paper.
- Write in black or dark blue ink. Pencil may be used for diagrams and graphs.
- Fill in your name, centre number and candidate number above.
- Show your working: a correct method can earn marks even if the answer is wrong.
- Unless a question says otherwise, give answers that are not exact to 3 significant figures, and angles in degrees to 1 decimal place.

Information

- This paper has 10 questions worth 31 marks in total.
- The marks for each question or part are shown in brackets, for example [3].

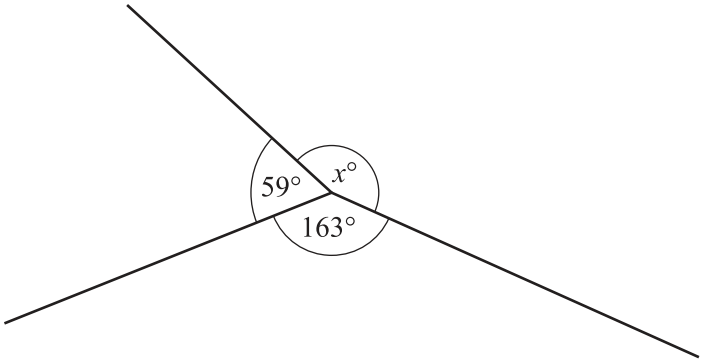
Advice

- Read every question through once before you write anything.
- Use the marks in brackets to judge how long to spend on each part.
- If you finish early, go back and check your working.

STEM | Exam Builder

Print at 100% (Actual size) so diagrams keep their real measurements.

1



NOT TO SCALE

(a) Find the value of x.

Answer(a) $x =$ ..... [1]

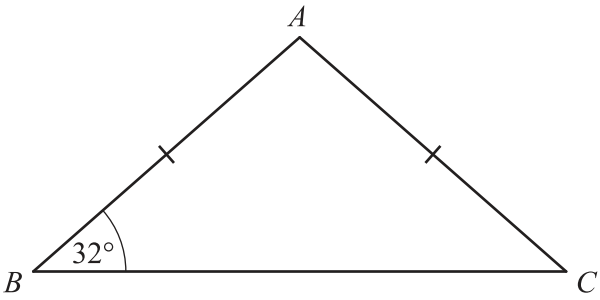
(b) One of the angles is 163°.

What type of angle is this?

Answer(b) ..... [1]

(a) Basic angle properties (b) Basic angle properties Click for more variations

2



NOT TO SCALE

Triangle ABC is isosceles.
Angle $ABC = 32°$ and $AB = AC$.

Find angle BAC.

Angle $BAC =$ ..... [2]

Basic angle properties Click for more variations

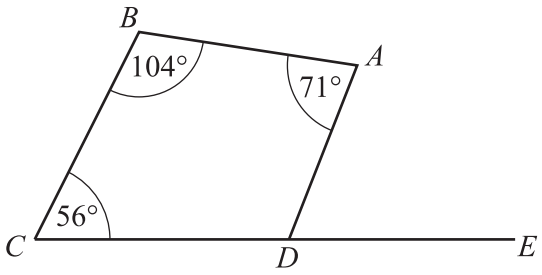
STEM | Exam Builder

3 Calculate the size of one interior angle of a regular polygon with 40 sides.

..... [2]

Angles in polygons Click for more variations

4



NOT TO SCALE

CDE is a straight line.

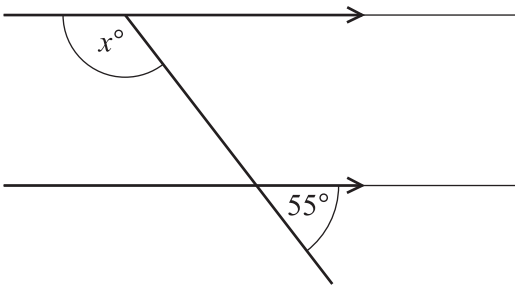
Find angle *ADE*.

..... [2]

Angles in polygons Click for more variations

STEM | Exam Builder

5



NOT TO SCALE

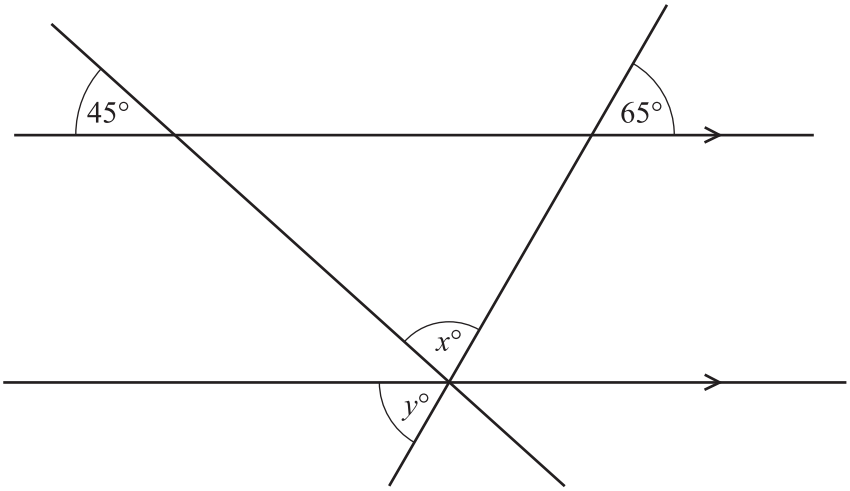
The diagram shows two parallel lines and a straight line.

Find the value of x.

$x =$ ..... [2]

Angles in parallel lines Click for more variations

6



NOT TO SCALE

The diagram shows two straight lines intersecting two parallel lines.

Find the value of x and the value of y.

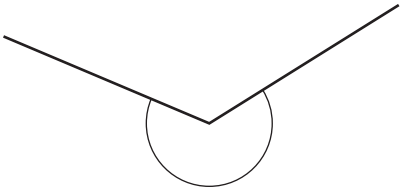
STEM | Exam Builder

$x =$ .....

$y =$ ..... [3]

Angles in parallel lines Click for more variations

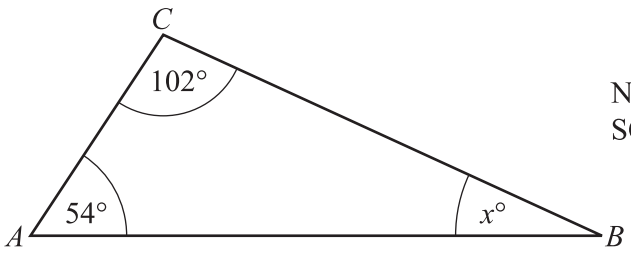
7 **(a)**



Write down the mathematical name for this type of angle.

..... [1]

(b) *ABC* is a triangle.



NOT TO SCALE

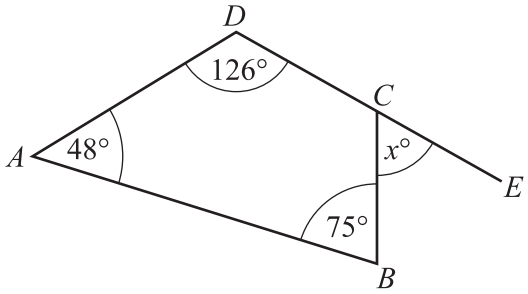
Lily says x is 34.

Give a geometrical reason why Lily is not correct.

.....

..... [1]

(c)



NOT TO SCALE

ABCD is a quadrilateral.
DCE is a straight line.

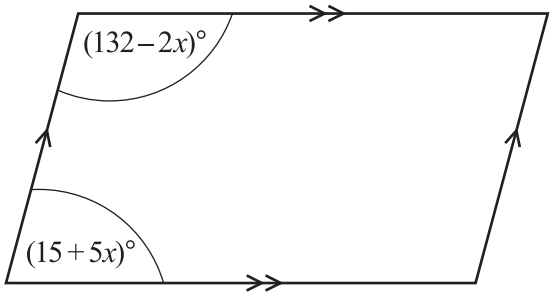
Calculate the value of x.

STEM | Exam Builder

$x =$ ..... [2]

(a) Basic angle properties (b) Basic angle properties (c) Angles in polygons Click for more variations

8 The diagram shows a parallelogram.



NOT TO SCALE

Work out the size of the smallest interior angle of the parallelogram.

..... [4]

Basic angle properties Click for more variations

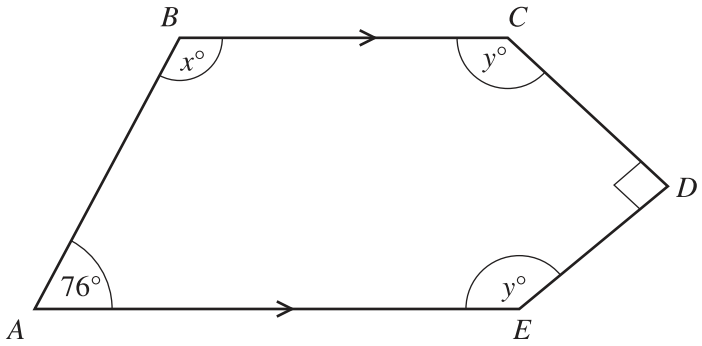
STEM | Exam Builder

9 **(a)** Show that the sum of the interior angles of a regular pentagon is 540°.

Answer(a)

[2]

(b)



NOT TO SCALE

The diagram shows a pentagon *ABCDE*.
BC is parallel to *AE* and angle *CDE* is a right angle.

Find the values of x and y.

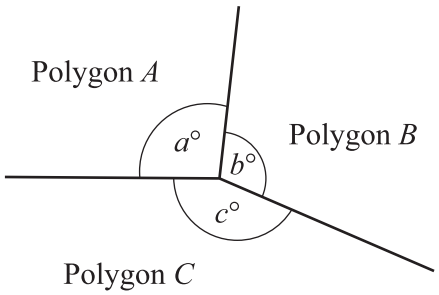
Answer(b) $x =$ .....

$y =$ ..... [3]

(a) Angles in polygons (b) Angles in polygons Click for more variations

STEM Exam Builder

10



NOT TO SCALE

Three regular polygons A, B and C meet at a point.
The interior angles of the polygons are in the ratio $a : b : c = 3 : 4 : 5$.

Show that polygon C has twice the number of sides as polygon B.

[5]

Angles in polygons Click for more variations

STEM | Exam Builder