Q1.

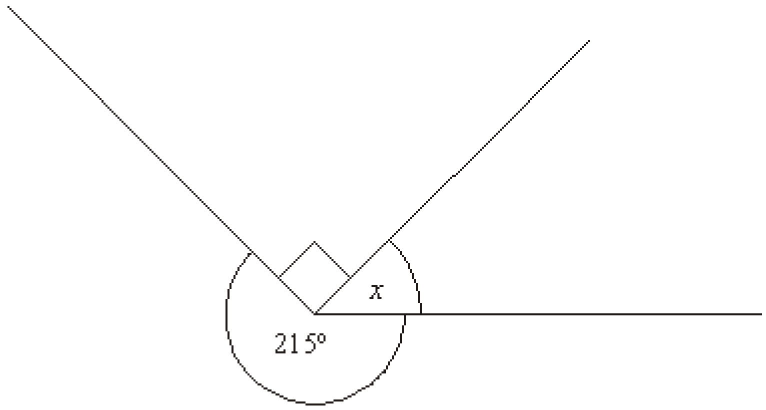


Diagram **NOT** accurately drawn

(i) Work out the size of the angle marked *x*.

....................................°

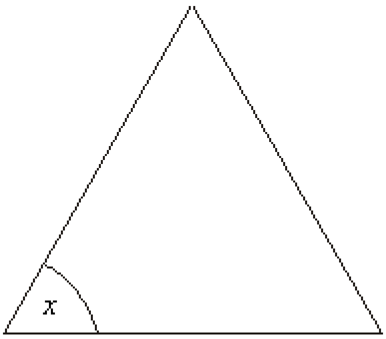
(ii) Give a reason for your answer.

....

....

(Total 3 marks)

Q2. (a) Here is an equilateral triangle.

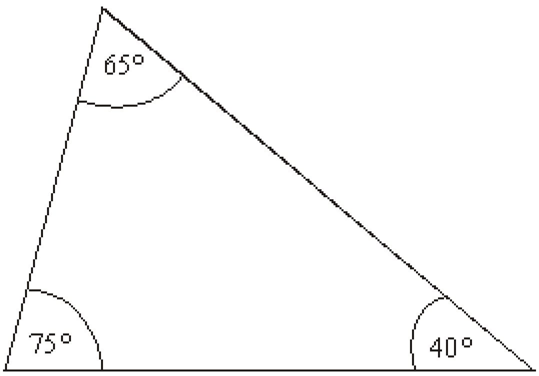


Write down the size of the angle marked x.

x = ...°

(1)

(b) Here is a triangle.



Rob says this triangle is a right-angled triangle.

Rob is wrong.
Explain why.

....

....

(1)
(Total 2 marks)

Q3.

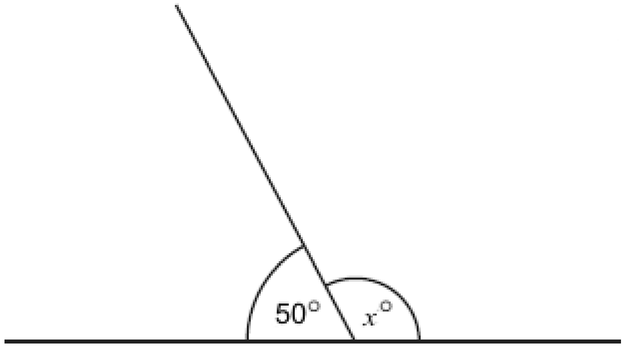


Diagram **NOT** accurately drawn

(i) Work out the value of x.

x = ...

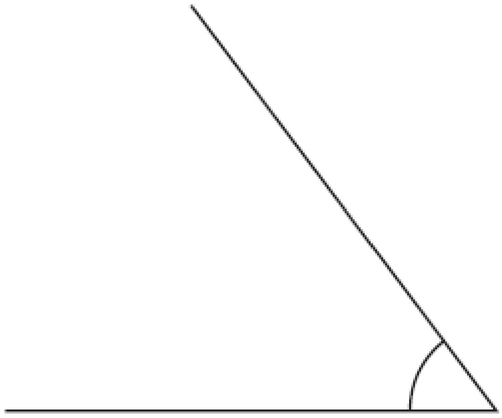
(ii) Give a reason for your answer.

....

....

(Total 2 marks)

Q4. (i) What type of angle is this?



....

(ii) Measure the size of the angle.

.................................°

(Total 2 marks)

Q5.

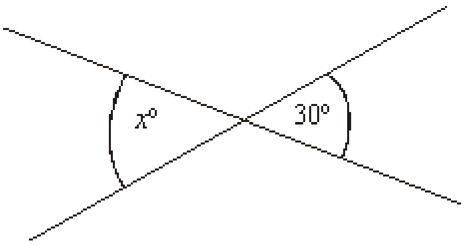


Diagram **NOT** accurately drawn

(a) (i) Write down the value of x.

x = ...

(ii) Give a reason for your answer.

....

....

(2)

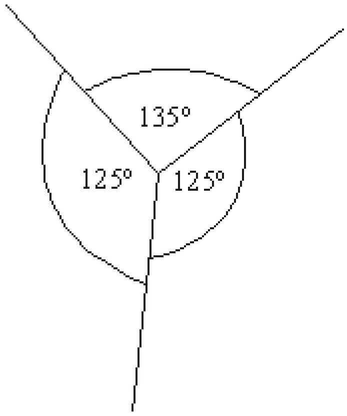


Diagram **NOT** accurately drawn

This diagram is **wrong**.

(b) Explain why.

....

....

(1)
(Total 3 marks)

Q6. (a)

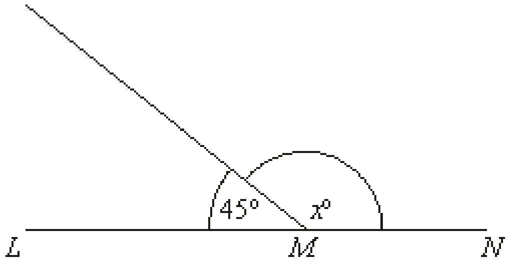


Diagram **NOT** accurately drawn

LMN is a straight line.

(i) Work out the value of x.

x = ...

(ii) Give a reason for your answer.

....

....

(2)

(b)

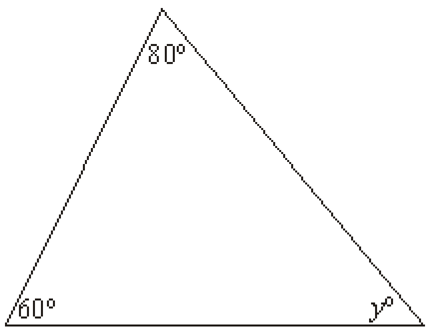


Diagram **NOT** accurately drawn

Work out the value of y.

y = ...

(2)

(Total 4 marks)

M1.

	Working	Answer	Mark	Additional Guidance
(i)	215 + 90 = 305 360 – 305 =	55	3	**M1** for 360 – (215 + 90) **A1** for 55 cao SC **B1** If **M1** not awarded if 90 seen
(ii)		angles at a point add to 360°		**B1** for angles (at a point) add to 360° oe
				Total for Question: 3 marks

M2.

	Answer	Mark	Additional Guidance
(a)	60	1	**B1** for 60 cao
(b)	reason	1	**B1** for no 90º angle oe
			Total for Question: 2 marks

M3.

	Answer	Mark	Additional Guidance

(i)	130	1	**B1** for 130 cao
(ii)	Reason	1	**B1** for reason eg "angles on a (straight) line (sum to) 180° NB: those underlined are the essential elements of an answer.
			Total for Question: 2 marks

M4.

	Answer	Mark	Additional Guidance
(i)	Acute	1	**B1** cao
(ii)	53°	1	**B1** for an angle 51°-55°
			Total for Question: 2 marks

M5.

	Answer	Mark	Additional Guidance
(a)(i)	30	2	**B1** cao
(ii)			**B1** (dep) "opposite" (angles), or demonstrates angles sum to 360 (30 + 30 + 150 + 150); states "angles on a straight line" *twice.*
(b)(i)	Reason	1	**B1** reason Eg don't sum to 360, adds to give 385 (ie not 360°)

Total for Question: 3 marks

M6.

	Working	Answer	Mark	Additional Guidance
(a)(i)	180 – 45	135	2	**B1** for 135 cao
(ii)		Reason		**B1** for (angles on a straight) line add to 180°
(b)	180 – (80 + 60)	40	2	**M1** for 180 – (80 + 60) **A1** for 40 cao
Total for Question: 4 marks				

E1. Though candidates realised what they had to do in this question, many errors were made. These were often for thinking there were 380º in a full turn or even 180º. Sometimes candidates made arithmetic slips in their subtraction and sometimes candidates in their reasoning said that they had used a protractor.

E2. Stating the size of the angle in the equilateral triangle was a widely known fact and produced many accurate results (74% success rate).

Candidates, who measured the angle using a protractor and gave an answer other than 60°, eg 59° or 61°, did not score. Other common errors were 90° and 120°.

The explanation required in part (b) gave rise to a variety of complex ideas whereas using a simple fact could have easily earned the mark.
Recognition that a right-angled triangle should contain an angle of 90° was sufficient.

##

The first part of this question was usually correctly answered. In respect of giving an explanation centres need to be aware that marks are now only being given for complete answers that have clarity, and make reference to geometrical properties. For this question there needed to be some reference to an “angle”, a “line” and “180°”, strung together unambiguously in a statement of fact. For example “angles on a straight line add to 180°”. A description of the process followed to find the answer was not a reason.

##

It was surprising the number of candidates who described this angle as “rightangled”. Predictably there were also many obtuse angles stated, but acute was the most common answer. The majority of candidates gave the correct measurement of the angle. For some it was a guess (no protractor?) whilst for others it was the supplementary angle (incorrect reading off the protractor scale).

E5. Part (a) was not well answered, with only half of the candidates gaining any marks. Incorrect answers given in part (a) included the supplementary angle, and answers arising out of measurement. Correct reasoning was rare, with confused references to parallel lines, angles on a straight line, or at a point. In part (b) the success rate was higher, with many good explanations relating to 360°, or the incorrect sum of 385°.

E6. Both parts of this question were answered well. Almost two thirds of candidates gained both marks in part (a). Some lost the first mark because of inaccurate subtraction of 45 from 180. Many candidates were able to give a correct reason although some did simply describe the process they had used and did not mention that angles on a straight line add up 180°. Some candidates thought that there are 360° on a straight line and some simply measured the angle with a protractor even though the diagram was not drawn accurately. In part (b) many candidates were able to demonstrate their knowledge of the sum of the angles in a triangle by giving an answer of 40°, often with no working. Where working was shown it was evident that some incorrect answers were due to poor arithmetic and in these cases a method mark could be awarded. Some candidates added the two given angles together but did not subtract the result from 180°. Others thought that the angles in a triangle add up to 360° and worked out the missing angle as 220°.