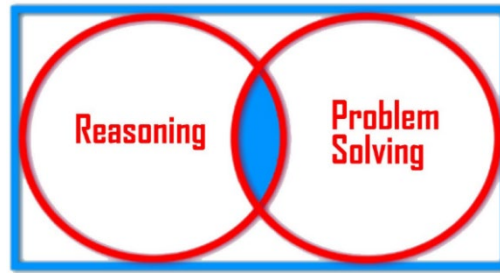


GCSE Foundation (5 – 1)



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Mathematical Reasoning Questions

(Angles) – Set 1

**The marks shown are for guidance purposes only
[Total marks: 15 Marks]**

1 Here is a diagram showing angles Q and R

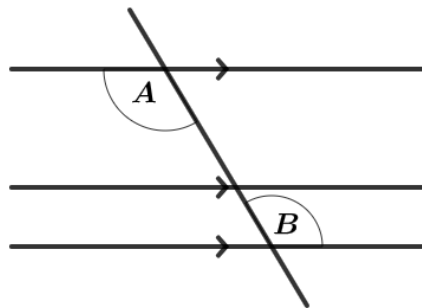


Jessica says,

‘Since angles Q and R are on a straight line, they must add up to 180° ’. Comment on the accuracy of Jessica’s statement.

[1Mark]

2 Here is a diagram



What is the relationship between angle A and angle B

- a) Alternate angles
- b) Corresponding angles
- c) Co-interior angles
- d) Vertically opposite angles

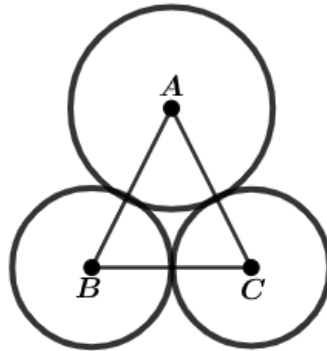
[1Mark]

3 Answer **True** or **False** to the following statements

- a) Alternate angles add up to 180°
- b) Corresponding angle are equal
- c) Vertically opposite angles add up 360°
- d) Co – interior angles add up 180°

[4Marks]

- 4 The diagram below shows three circles which touch at their circumferences. A, B and C are the centres of the circles. The circles with centres at B and C have the same radii.

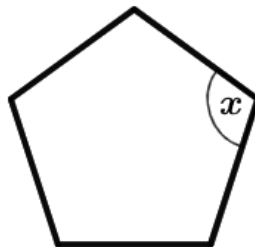


Which of the statements below is **true** about triangle ABC?
Choose one answer

- a) It is Equilateral
- b) It is isosceles
- c) It is scalene
- d) It must be right angled

[1Mark]

- 5 Here is a regular pentagon. Calculate the value of angle x .



Joanne's Answer

Since the shape is regular, all the angles will be equal.

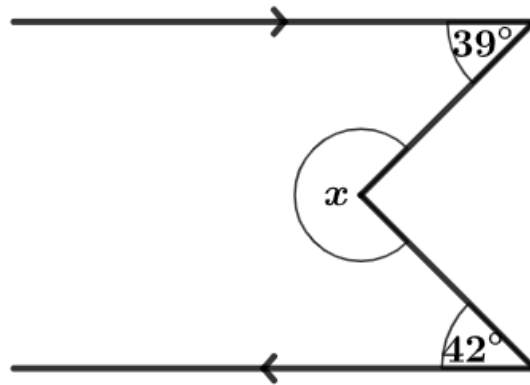
$$\text{Therefore, } 5x = 360$$

$$x = 360 \div 5 = 72$$

What mistake did Joanne make?

[1Mark]

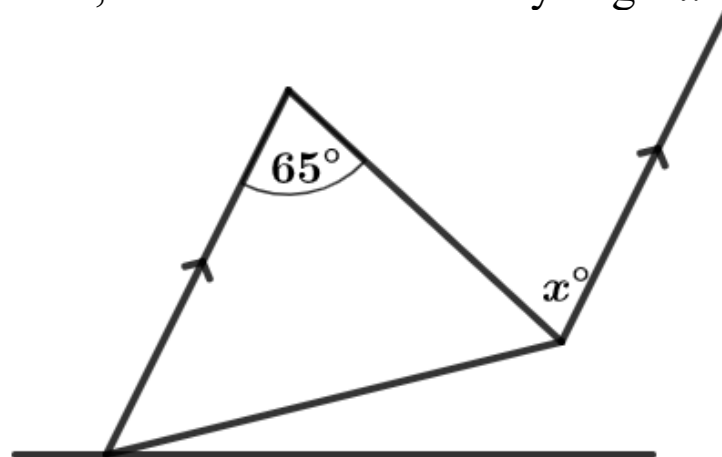
6 Calculate the size of angle x from the diagram below



- a) 80°
- b) 279°
- c) 321°
- d) 318°

[1Mark]

7 In the diagram below, choose the reason why angle x is 65°

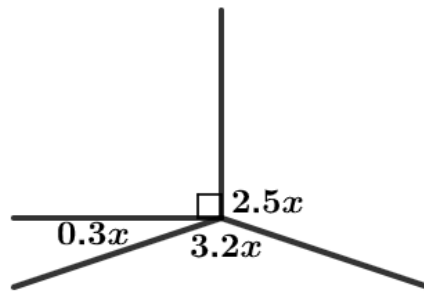


Choose one answer

- a) Corresponding Angles
- b) Co – interior angles
- c) Alternate angles
- d) Angles in a triangle

[1Mark]

8 Calculate the size of the largest angle in the diagram below

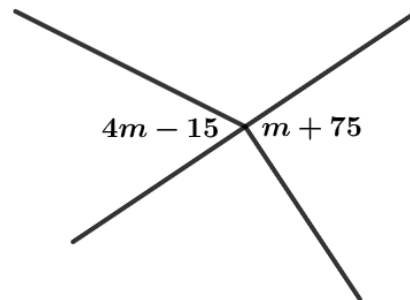


Choose one answer only

- a) 185°
- b) 140°
- c) 144°
- d) 192°

[2Marks]

9 Calculate the value of m from the diagram below



Alfie's Answer

$$4m - 15 = m + 75 \quad \{\text{Vertically opposite angles are equal}\}$$

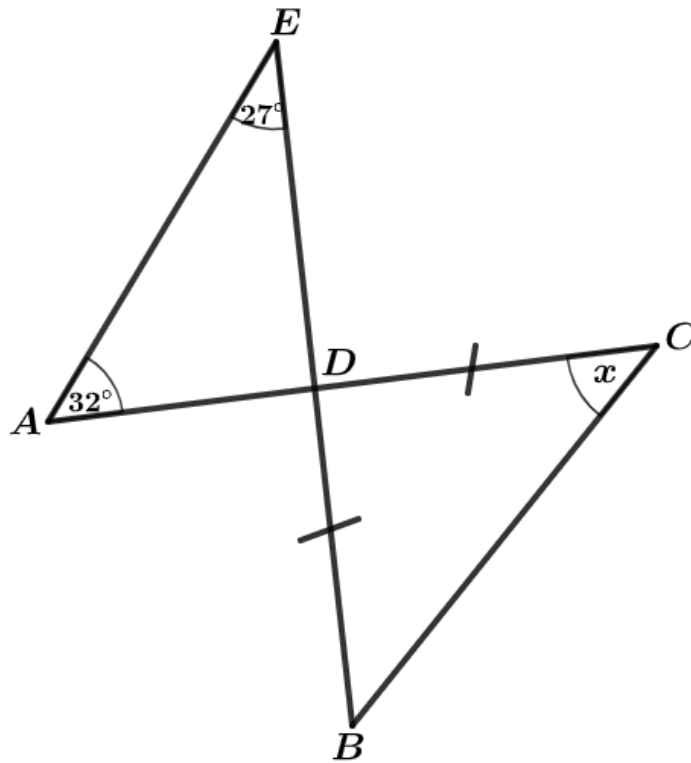
$$3m = 90$$

$$m = 30^\circ$$

Alfie is wrong. Explain why

[1Mark]

10 The diagram below shows two triangles joined at point D



Give the reasons why angle $x = 29.5^\circ$

[2Marks]