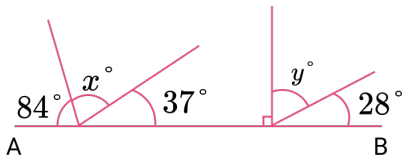
THIRD SPACE LEARNING

GCSE Exam Questions

Angles on a Straight Line | Geometry & Measure

GCSE Exam Questions: Angles on a Straight Line

1) **(a)** AB is a straight line. Calculate the size of the missing angle x.



(2)

(b) Calculate the size of the missing angle y.

(2)

(4 marks)

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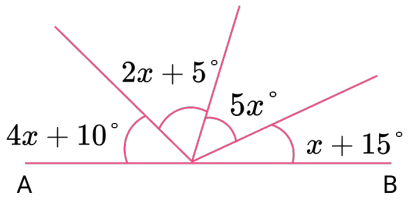
2) **(a)** AB is a straight line. Calculate the value of x.



(3)

(b) Hence calculate the size of each angle on the straight line AB.

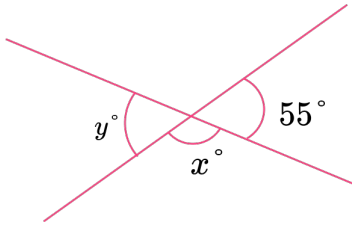
(4)

(7 marks)

GCSE Exam Questions: Angles on a Straight Line

3) Jen is trying to work out the value of x for the question:

Calculate the values of x and y in the diagram:



Here is Jen's working:

$$360 - 55 = 305$$
$$so \;\; x = 305^\circ$$
$$360 - 305 = 55^\circ$$
$$so \;\; y = 55^\circ$$

(a) Explain why Jen's solution is **not** correct.

(1)

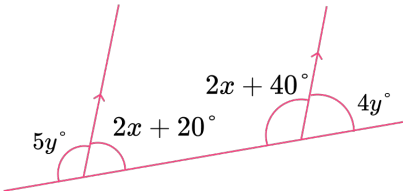
(b) Work out the correct values for x and y using knowledge of angles on a straight line **only**.

(2)

(3 marks)

GCSE Exam Questions: Angles on a Straight Line

4) Two parallel lines cross through a single, straight line:



(a) Using the fact that the sum of angles on a straight line is 180, form two equations written in the form $ax + by = c$ where a, b, and c are integers.

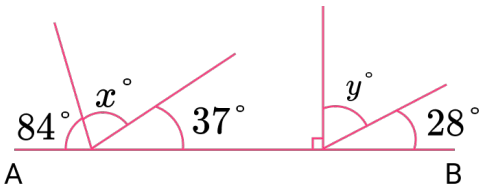
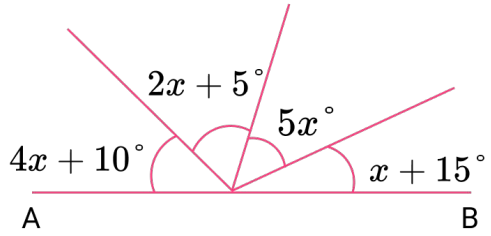
(4)

(b) Calculate the size of the four angles in the diagram in part (a).

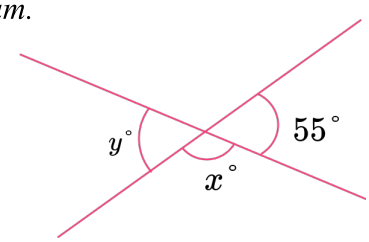
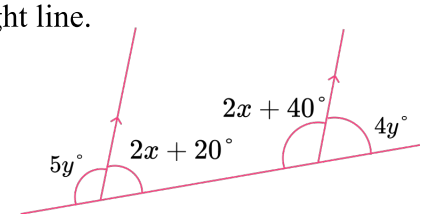
(5)

(9 marks)

GCSE Exam Questions: Angles on a Straight Line Answers

	Question	Answer	Marks
1) (a)	*AB* is a straight line. Calculate the size of the missing angle *x*.  	**(a)** $x = 180 - (84 + 37)$ $x = 59°$	**(1)** **(1)**
(b)	Calculate the size of the missing angle *y*.	**(b)** $y = 180 - (90 + 28)$ $y = 62°$	**(1)** **(1)**
2) (a)	*AB* is a straight line. Calculate the value of *x*.  	**(a)** $(4x + 10) + (2x + 5)$ $+ (5x) + (x + 15) = 180$ **oe** $12x = 150$ **oe** $x = 12.5$	 **(1)** **(1)** **(1)**
(b)	Hence calculate the size of each angle on the straight line *AB*.	**(b)** $4x + 10 = 60°$ $2x + 5 = 30°$ $5x = 62.5°$ $x + 15 = 27.5°$	**(1)** **(1)** **(1)** **(1)**

GCSE Exam Questions: Angles on a Straight Line Answers

	Question	Answer	Marks
3) (a)	Jen is trying to work out the value of x for the question: *Calculate the values of x and y in the diagram.*  Here is Jen's working: $360 - 55 = 305$ $so \;\; x = 305^\circ$ $360 - 305 = 55^\circ$ $so \;\; y = 55^\circ$ Explain why Jen's solution is **not** correct.	**(a)** Angles on a straight line add up to 180° but Jen has used 360°.	**(1)**
(b)	Work out the correct values for x and y using knowledge of angles on a straight line **only**.	**(b)** x = 180 - 55 = 125° y = 180 - 125 = 55°	**(1)** **(1)**
4) (a)	Two parallel lines cross through a single, straight line.  Using the fact that the sum of angles on a straight line is 180°, form two equations written in the form $ax + by = c$ where a, b, and c are integers.	**(a)** Any two of the following equations: $5y + 2x + 20 = 180$ $5y + 2x = 160$ $2x + 40 + 4y = 180$ $2x + 4y = 140$ **Do not accept:** $2x - 5y = -40$ $2x - 4y = -20$ $4x + 0y = 120$ $0x + 9y = 180$	 **(1)** **(1)** **(1)** **(1)**
(b)	Calculate the size of the four angles in the diagram in part (a).	**(b)** $2x + 5y = 160$ **(A)** $2x + 4y = 140$ **(B)** **(A - B):** $y = 20°$ $2x + 100 = 160$ $x = 30°$ $5y = 100°$ or $4y = 80°$ $2x + 20 = 80°$ or $2x + 40 = 100°$	 **(1)** **(1)** **(1)** **(1)** **(1)**

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