

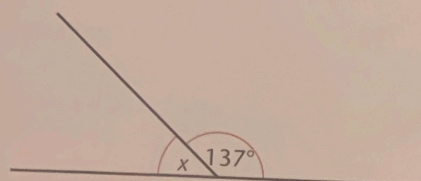
# MISSING ANGLES

**TARGET** To find missing angles:

- on a straight line
- at a point
- which are vertically opposite.

**ANGLES ON A STRAIGHT LINE**

The sum of the angles on a straight line is  $180^\circ$ .

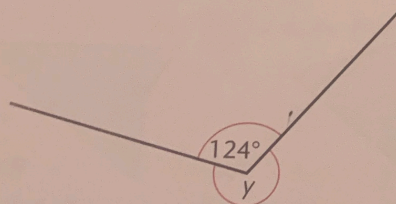


$$137^\circ + x = 180^\circ$$

$$x = 43^\circ$$

**ANGLES AT A POINT**

A whole turn is  $360^\circ$ .

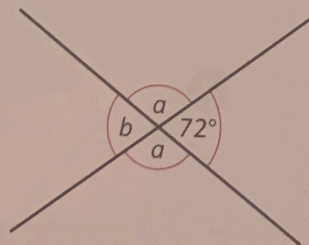


$$124^\circ + y = 360^\circ$$

$$y = 236^\circ$$

**VERTICALLY OPPOSITE ANGLES**

Where two straight lines cross each other opposite angles are equal.



$$b = 72^\circ \text{ (vertically opposite)}$$

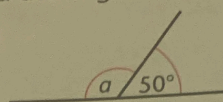
$$a + 72^\circ = 180^\circ$$

$$a = 108^\circ$$

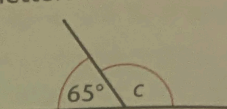
**A**

Find the angles marked with letters.

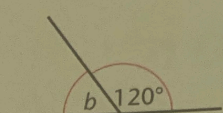
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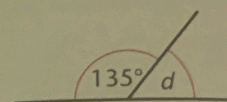
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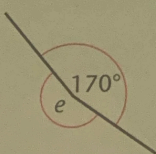
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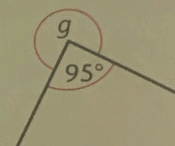
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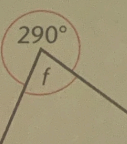
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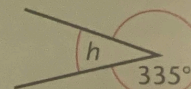
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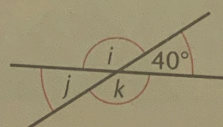
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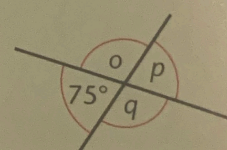
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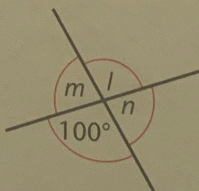
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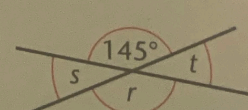
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10



12



How many degrees clockwise is the turn from:

13 S to W

17 N to NW

14 NE to SW

18 SE to NE

15 E to SE

19 NW to S

16 NW to E

20 W to NE?

21 How many degrees is:

a)  $2\frac{1}{2}$  right angles

b)  $1\frac{1}{3}$  right angles?