

f1

In the diagram,
 EF is a straight line.

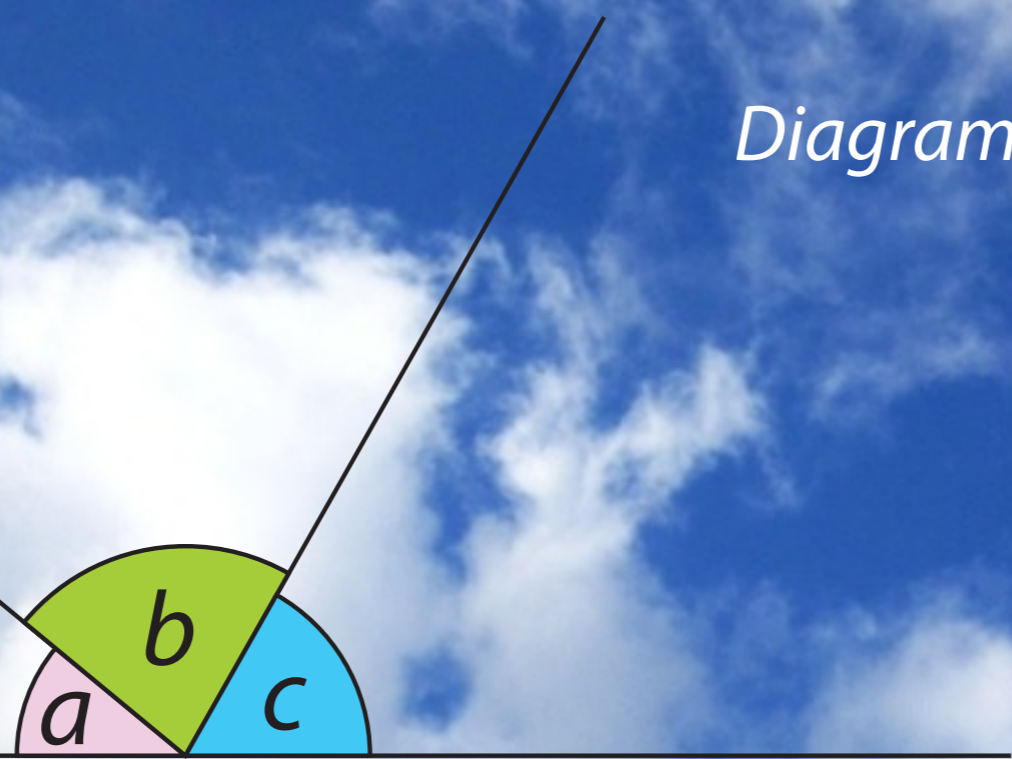


Diagram not to scale.

If $b = 2a$, write down some possible values for a , b and c .



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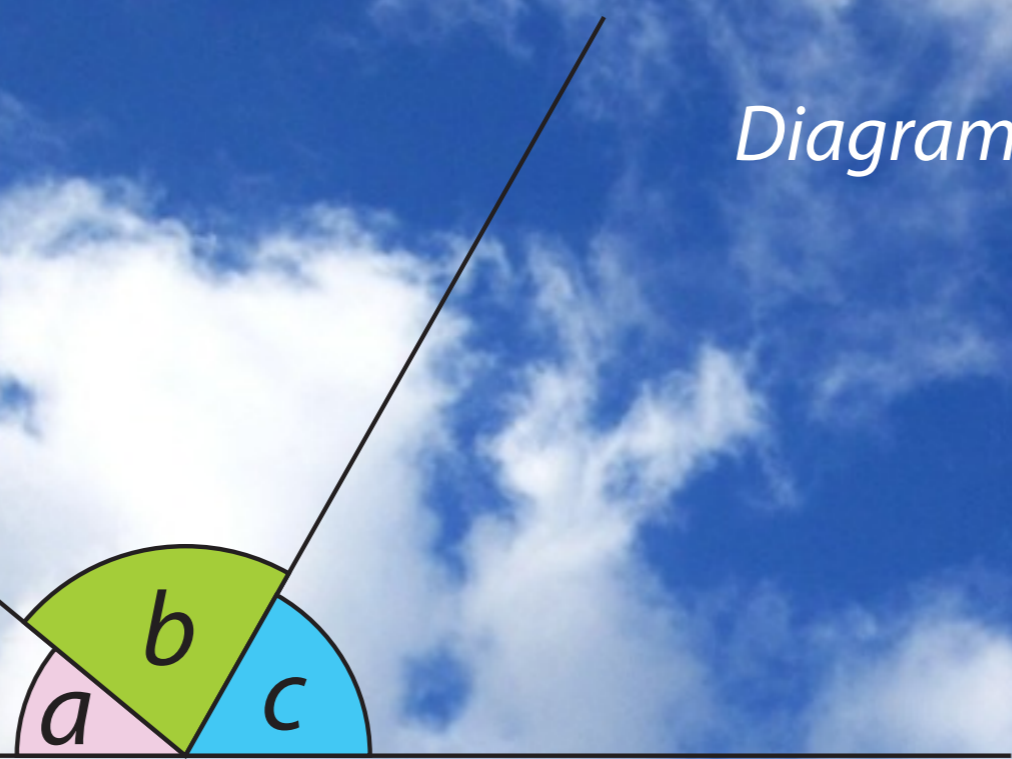


Diagram not to scale.

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Answer

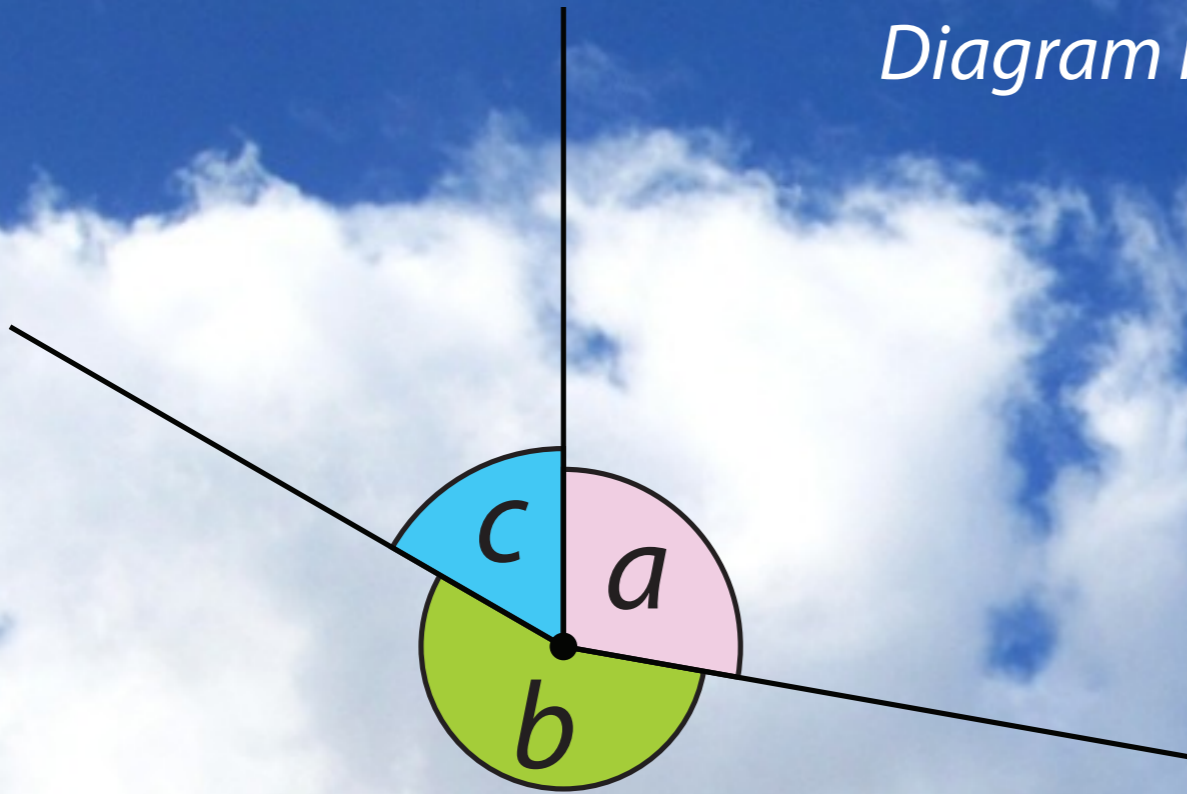
a	b	c
20	40	120
40	80	60
50	100	30

and many others.



f2 Look at the diagram.

Diagram not to scale.

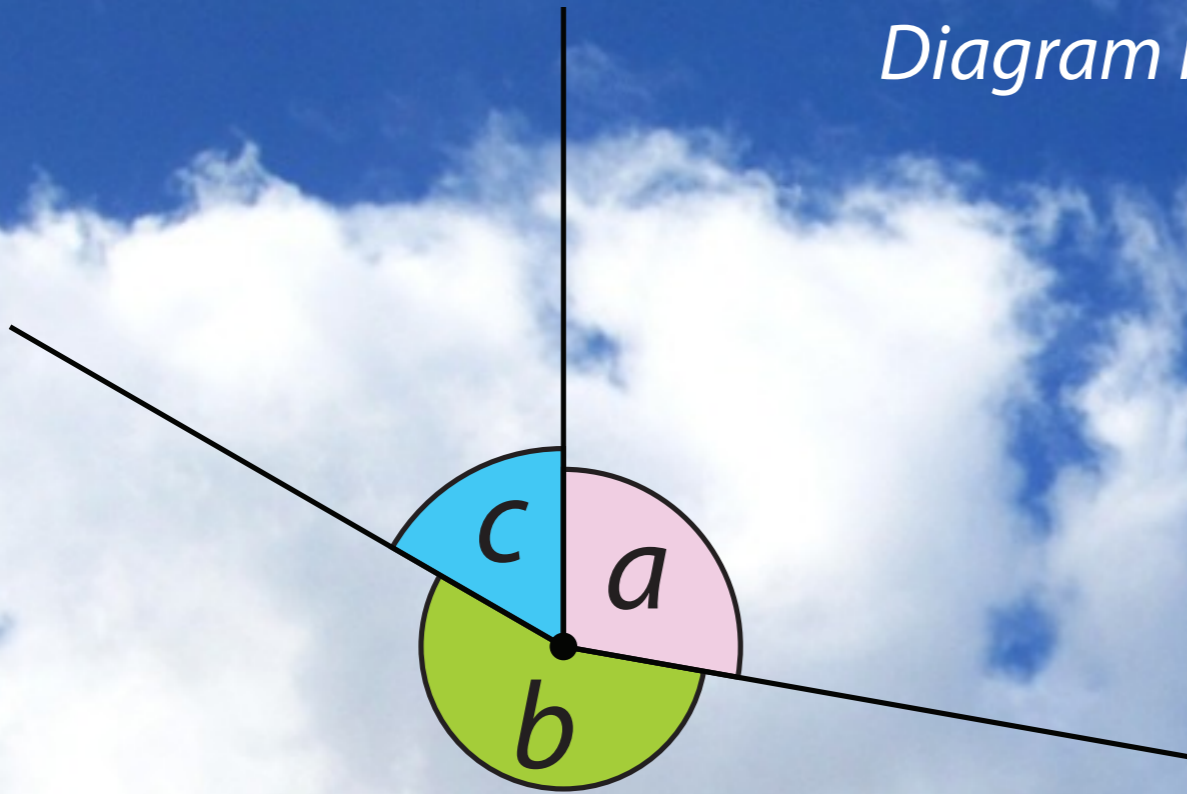


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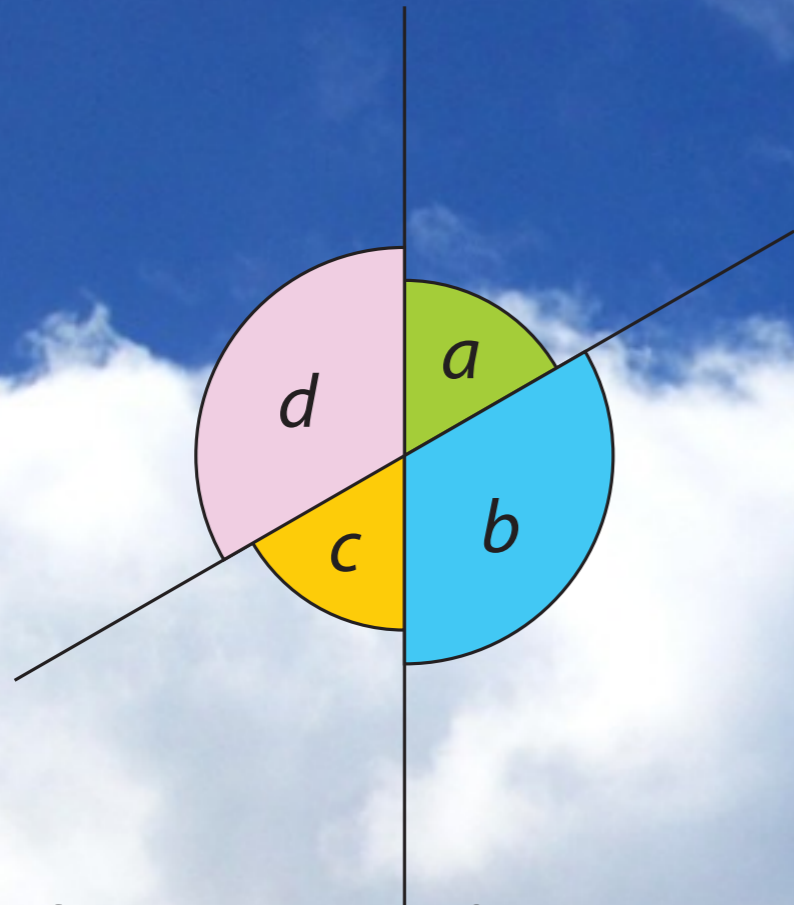
Answer

a	b	c
50	100	210
80	160	120
100	200	60

and many others.



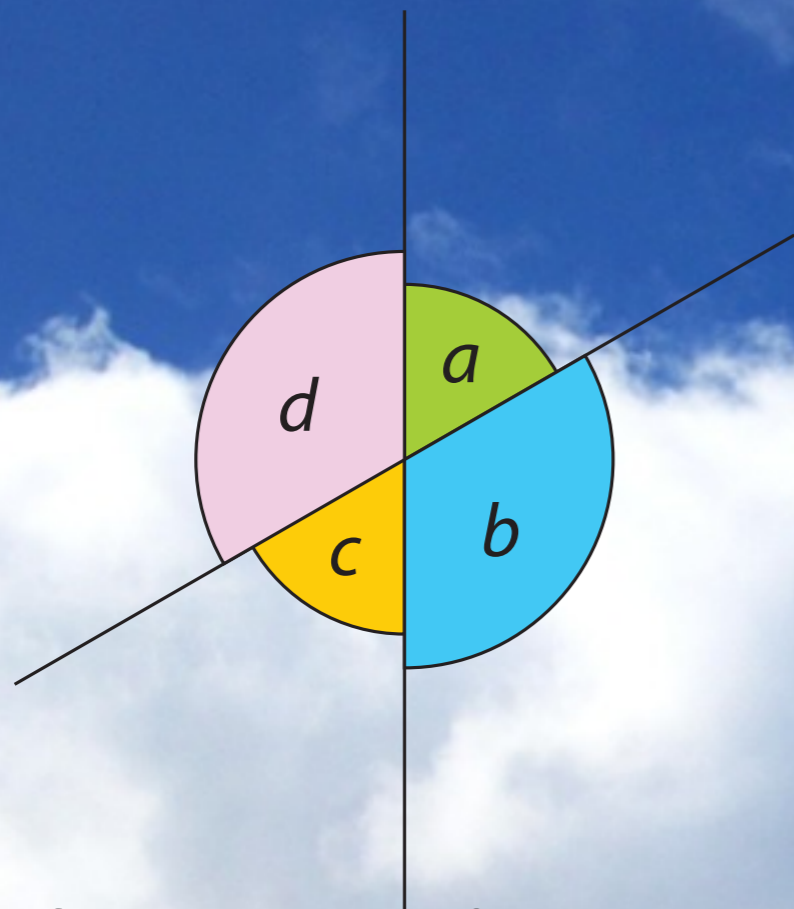
f3 Look at the diagram.



For a fixed value of a , write down some possible values for b , c and d .



f3 Look at the diagram.

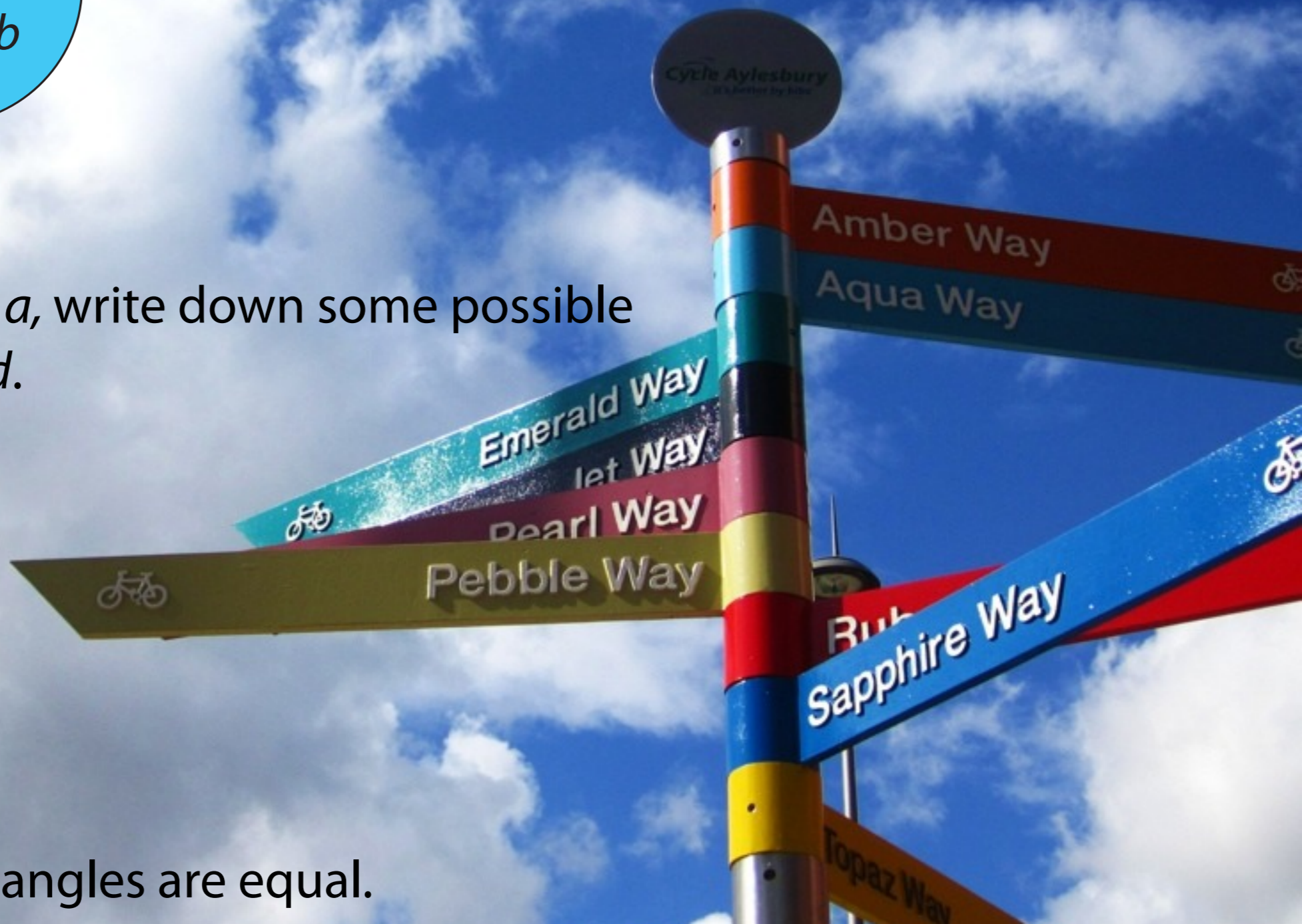


For a fixed value of a , write down some possible values for b , c and d .

Answer

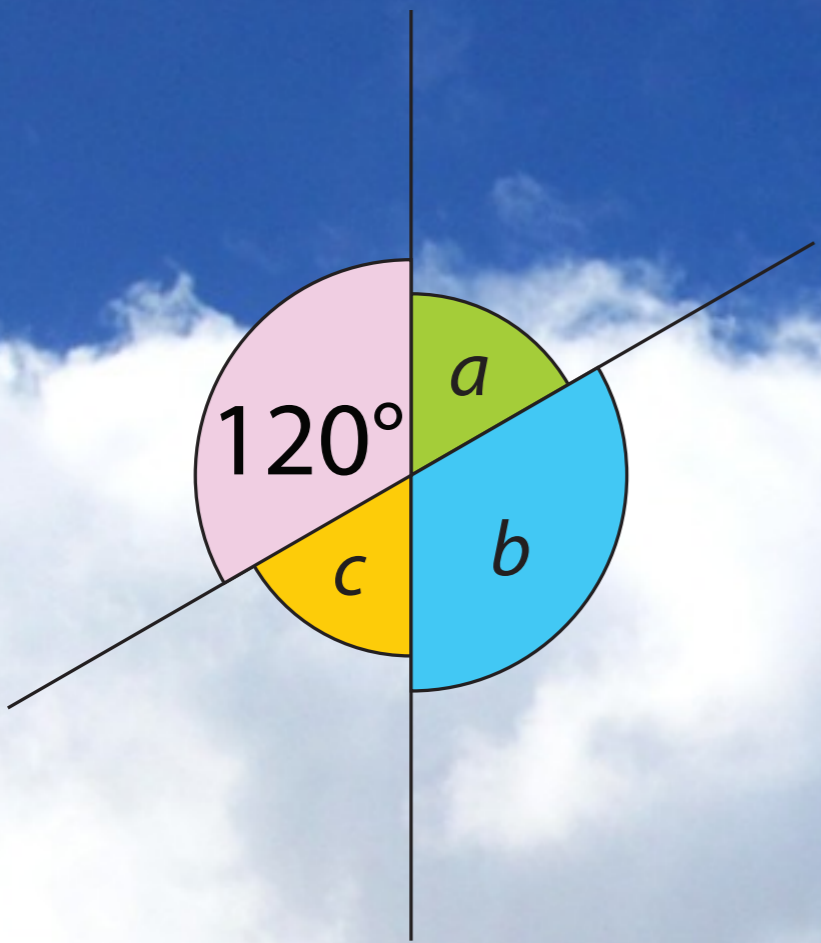
a	b	c	d
50	130	50	130
60	120	60	120
70	110	70	110

Vertically opposite angles are equal.





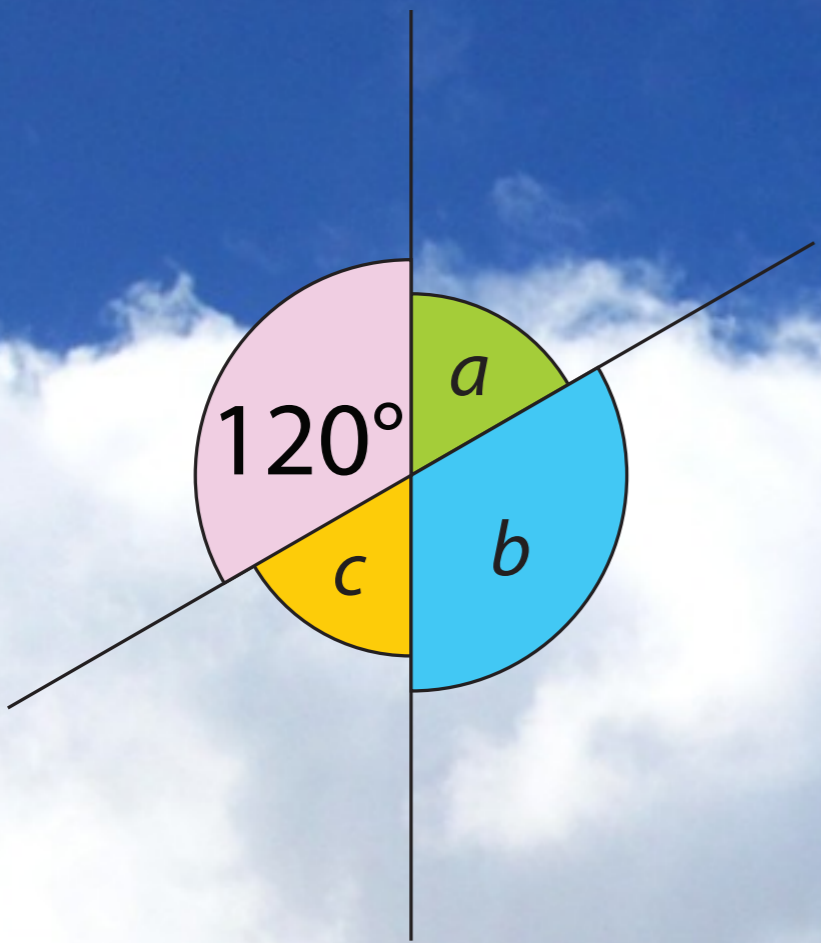
Look at the diagram.



Calculate the value of each angle.



ev Look at the diagram.



Calculate the value of each angle.

Answer

$$a = 60^\circ \quad b = 120^\circ \quad c = 60^\circ$$

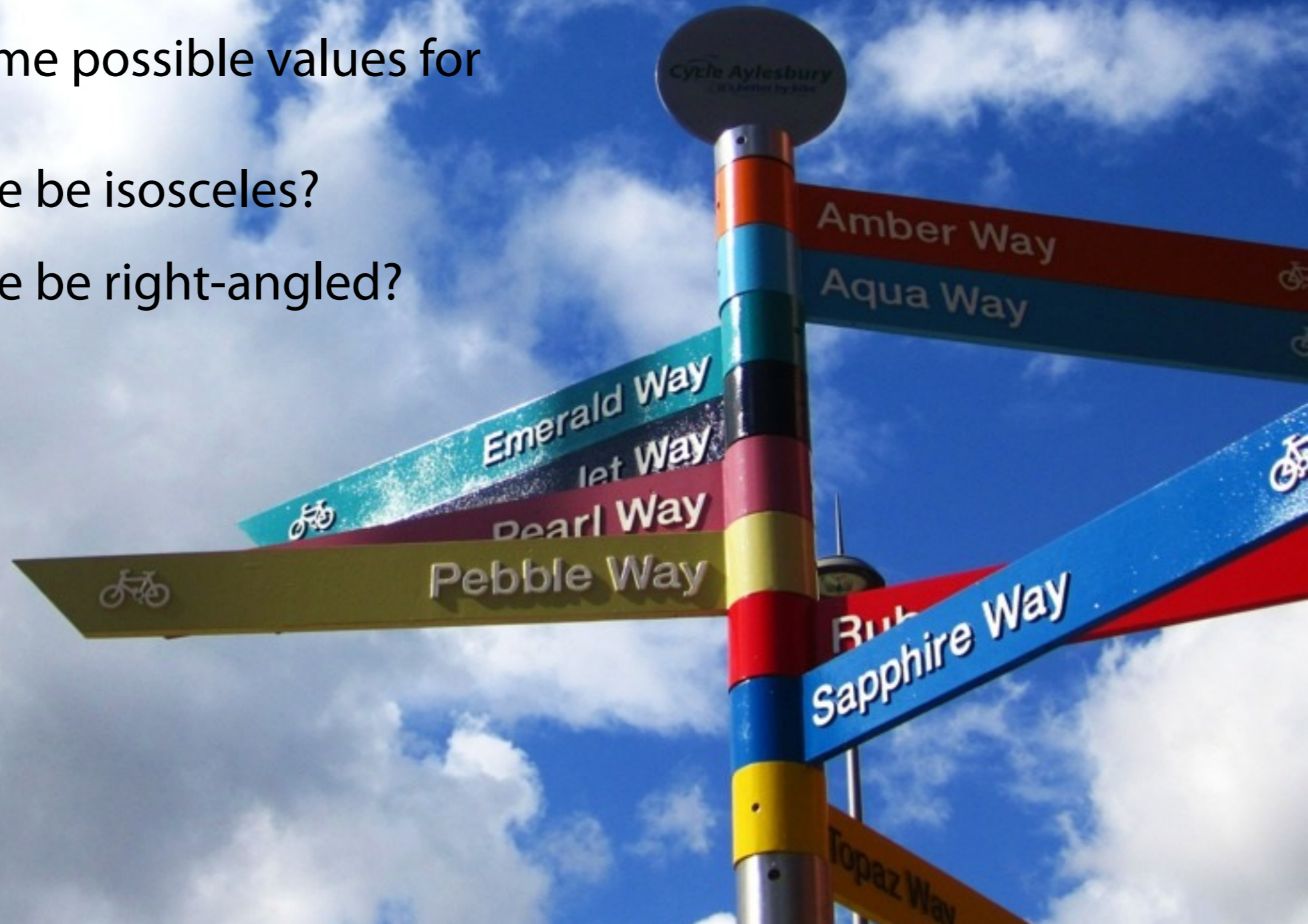


ii Look at the diagram.



If $b = 3a$,

- a Write down some possible values for a , b and c .
- b Can the triangle be isosceles?
- c Can the triangle be right-angled?



ii Look at the diagram.



If $b = 3a$,

- a Write down some possible values for a , b and c .
- b Can the triangle be isosceles?
- c Can the triangle be right-angled?

Answer

a

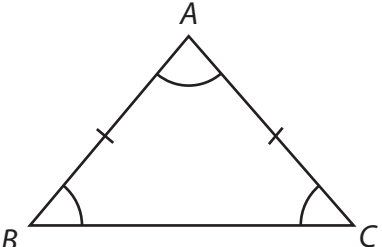
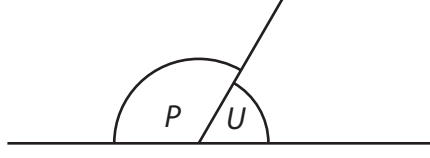
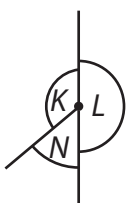
a	b	c
20	60	100
30	90	60
36	108	36

- b Yes
- c Yes



ex A1.1 Angles

- Cut out the cards below.
- Solve the problem using the information on the cards.

<p>1</p> 	<p>2</p> <p>Angle E is the same size as angle M.</p> <p>Angles S, W and Y meet at a point.</p>
<p>3</p> <p>Angles P and U are on a straight line.</p> <p>Angles K, L and N meet at a point.</p>	<p>4</p> <p>Angle B is 50°</p> <p>Angle W is four times the size of angle E.</p>
<p>5</p> <p>When you have worked out the unknown angles then you will be able to de-code this message:</p> <p>$80^\circ, 45^\circ, 90^\circ, 180^\circ, 30^\circ, 120^\circ, 80^\circ, 240^\circ, 30^\circ, 60^\circ, 61^\circ, 45^\circ$.</p>	<p>6</p>  <p>Angles E, F and G are in the ratio 1:2:3</p>
<p>7</p>  <p>Angle Z is equal to angle W.</p>	<p>8</p> <p>Triangle ABC is isosceles.</p> <p>Angle L is half a turn.</p> <p>Where there is more than one letter for an angle value, choose the one that comes first in the alphabet.</p>
<p>9</p> <p>Triangle EFG is a scalene triangle.</p> <p>Angle P is 119°</p> <p>Angles S, W and Y are equal.</p>	<p>10</p> <p>You are given three diagrams and will need to draw three more.</p> <p>Calculate the values of the unknown angles.</p>
<p>11</p> <p>Angle K is three times the size of angle N.</p> <p>Angle B is 50°</p>	<p>12</p> <p>Angle E is half the size of angle F.</p> <p>Angle R and angle Z meet at a point.</p>

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