

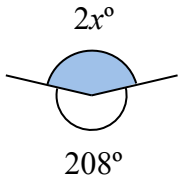
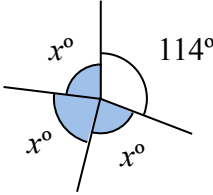
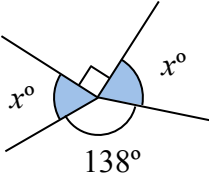
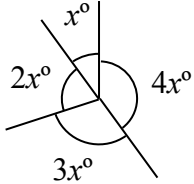
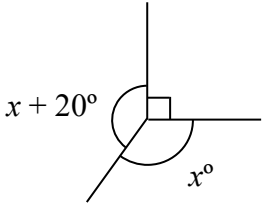
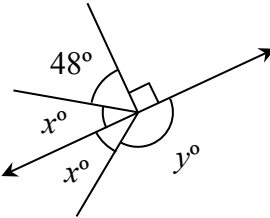
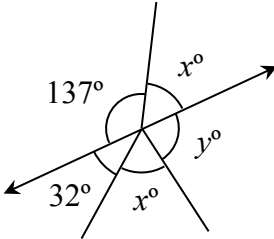
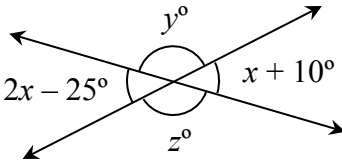
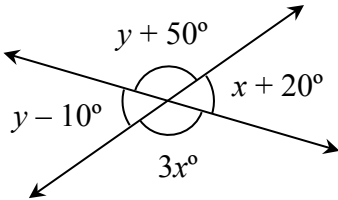
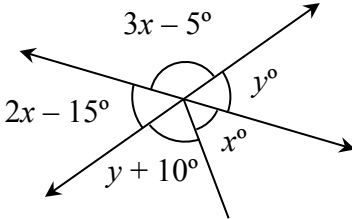


## ANGLE

### ANGLES AROUND A POINT

### NO PROTRACTOR

Ref: G421. **2E1**

<p><b>A1</b> Find the value of <math>x</math></p> 	<p><b>A2</b> Find the value of <math>x</math></p> 	<p><b>A3</b> Find the value of <math>x</math></p> 	<p><b>A4</b> Find the size of each of the four angles</p> 
<p><b>B1</b> Find the value of <math>x</math></p> 	<p><b>B2</b> Three angles fit exactly around a point. The second angle is <math>20^\circ</math> more than the first angle. The third angle is twice the size of the second angle. Find the size of each of the three angles.</p>	<p><b>B3</b> Find the values of <math>x</math> and <math>y</math></p> 	<p><b>B4</b> Find the values of <math>x</math> and <math>y</math></p> 
<p><b>C1</b> Three angles fit exactly around a point. Two of the angles are equal. The difference between the largest and smallest angle is <math>30^\circ</math> Find the size of each of the three angles.</p>	<p><b>C2</b> Find the values of <math>x</math>, <math>y</math> and <math>z</math></p> 	<p><b>C3</b> Find the values of <math>x</math> and <math>y</math></p> 	<p><b>C4</b> Find the values of <math>x</math>, <math>y</math> and <math>z</math></p> 



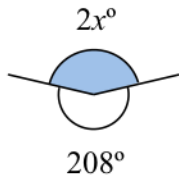
## ANGLE

### ANGLES AROUND A POINT

## NO PROTRACTOR

Ref: G421. **2E1**

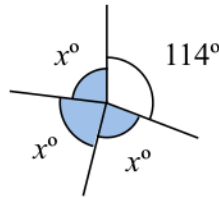
**A1** Find the value of  $x$



$$2x = 152$$

$$x = 76$$

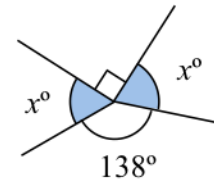
**A2** Find the value of  $x$



$$3x = 246$$

$$x = 82$$

**A3** Find the value of  $x$

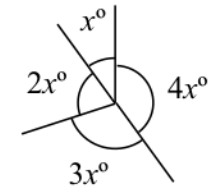


$$2x = 132$$

$$x = 66$$

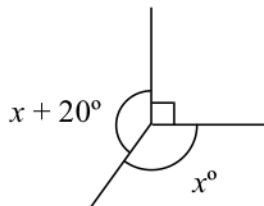
**A4** Find the size of each of the four angles

$$10x = 360 \Rightarrow x = 36^\circ$$



$$36^\circ, 72^\circ, 108^\circ \text{ and } 144^\circ$$

**B1** Find the value of  $x$



$$2x + 20 = 270$$

$$x = 125$$

**B2** Three angles fit exactly around a point.

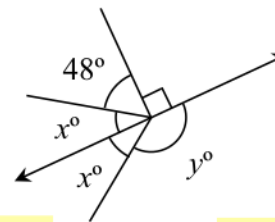
$$x + (x + 20) + (2x + 40) = 360$$

$$4x + 60 = 360$$

$$x = 75$$

$$75^\circ, 95^\circ \text{ and } 190^\circ$$

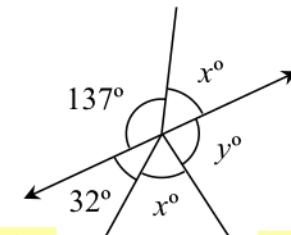
**B3** Find the values of  $x$  and  $y$



$$x = 42$$

$$y = 138$$

**B4** Find the values of  $x$  and  $y$



$$x = 43$$

$$y = 105$$

**C1** Three angles fit exactly around a point.

If smallest angles are equal:

$$x + x + (x + 30) = 360$$

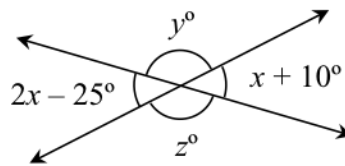
$$3x + 30 = 360$$

$$x = 110$$

$$\Rightarrow x + 30 = 140^\circ$$

**C2** Find the values of  $x$ ,  $y$  and  $z$

$$2x - 25 = x + 10$$

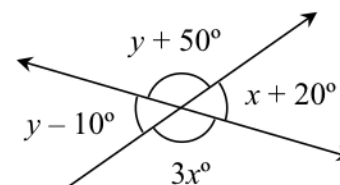


$$x = 35$$

$$y = z = 135$$

**C3** Find the values of  $x$  and  $y$

$$(y - 10) + (y + 50) = 180$$

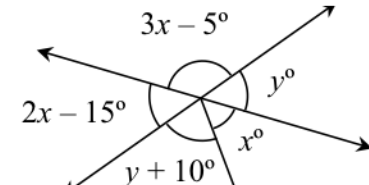


$$y = 70$$

$$x = 40$$

**C4** Find the values of  $x$ ,  $y$  and  $z$

$$(2x - 15) + (3x - 5) = 180$$



$$x = 40$$

$$y = 2(40) - 15 = 65$$