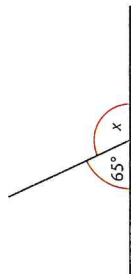


TARGET To find the missing angles at a point and on a straight line.

Examples

ANGLES ON A STRAIGHT LINE

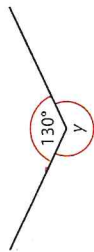
The sum of the angles at a point on a straight line is 180° .



$$x = 180^\circ - 65^\circ = 115^\circ$$

ANGLES AT A POINT

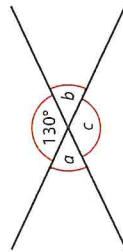
A whole turn is 360° .



$$y = 360^\circ - 130^\circ = 230^\circ$$

OPPOSITE ANGLES

When two straight lines intersect at a point opposite angles are equal.



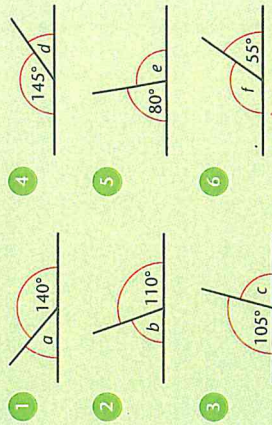
$$a = 180^\circ - 130^\circ = 50^\circ$$

$$b = 180^\circ - 130^\circ = 50^\circ$$

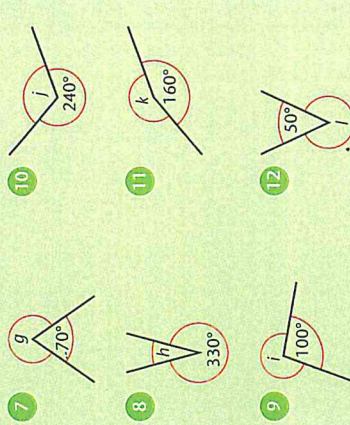
$$c = 360^\circ - 130^\circ - 50^\circ - 50^\circ = 360^\circ - 230^\circ = 130^\circ$$

A

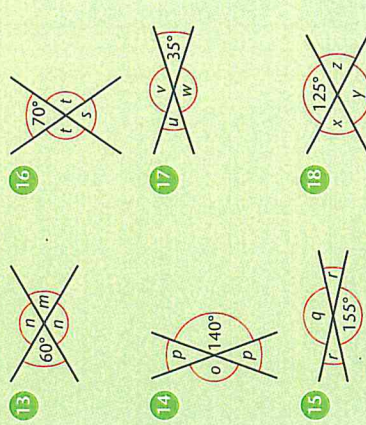
Find the missing angles.



Find the missing angles.

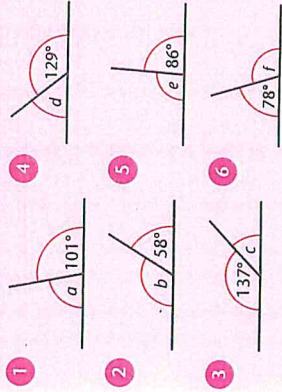


Find the missing angles.

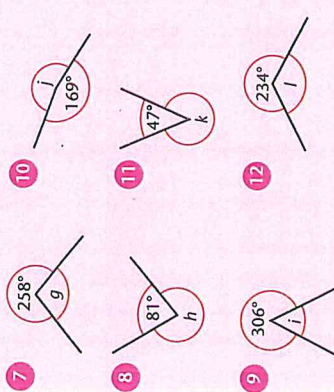


B

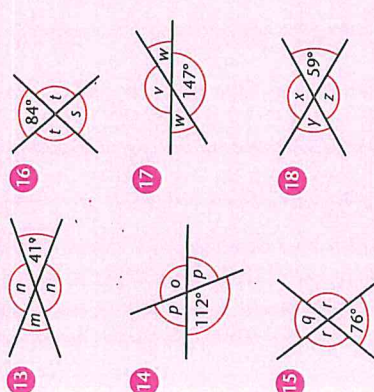
Find the missing angles marked with the letters.



Find the missing angles.

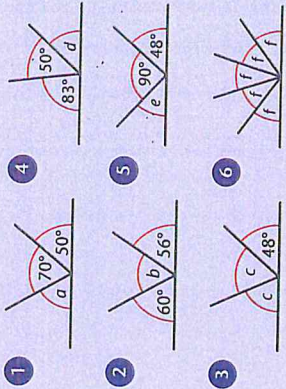


Find the missing angles.

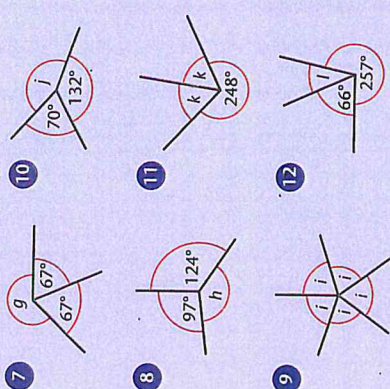


C

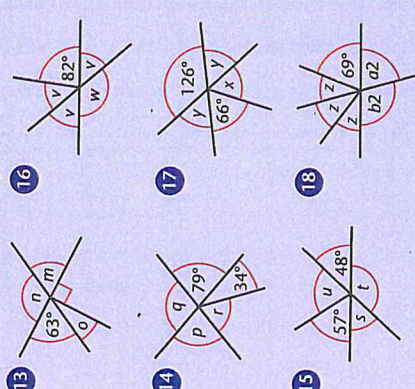
Calculate the missing angles.



Calculate the missing angles.



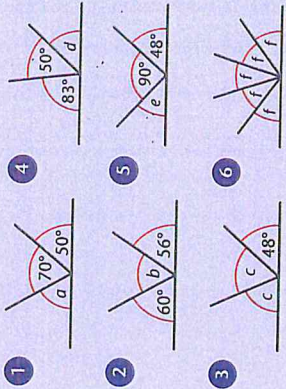
Calculate the missing angles.



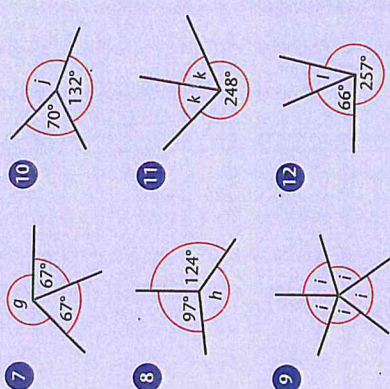
45

C

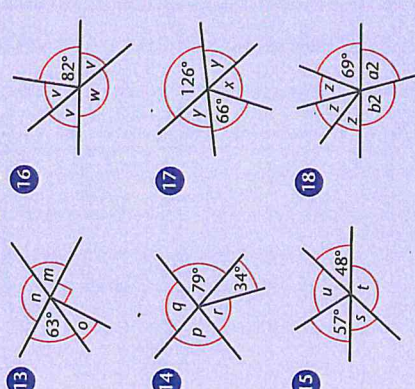
Calculate the missing angles.



Calculate the missing angles.

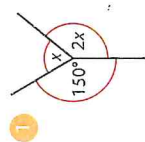


Calculate the missing angles.



TARGET To express and solve a missing number problem algebraically.

Examples



$$2x + x + 150 = 360$$

$$3x + 150 = 360$$

$$3x = 210 \quad (-150)$$

$$x = 70 \quad (\div 3)$$

Answer $x = 70^\circ$, $2x = 140^\circ$



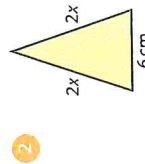
$$x + x - 3 = 20$$

$$2x - 3 = 20$$

$$2x = 23 \quad (+3)$$

$$x = 11.5$$

Answer $x = 11.5$, $2x = 23$, $x - 3 = 8.5$



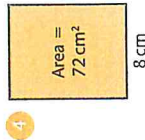
$$2x + 2x + 6 = 30$$

$$4x + 6 = 30$$

$$4x = 24 \quad (-6)$$

$$x = 6 \quad (\div 4)$$

Side $2x = 12$ cm



$$3z \times 8 = 72$$

$$3z = 9 \quad (\div 8)$$

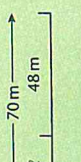
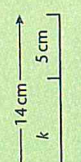
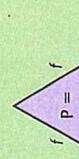
$$z = 3 \quad (\div 3)$$

Side $3z = 9$ cm

In sections A, B and C Area and Perimeter are shown by the letters A and P.

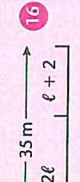
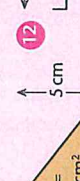
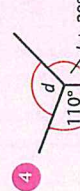
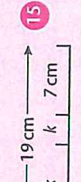
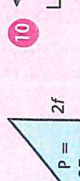
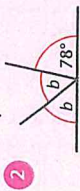
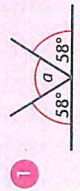
A

Write an equation to find the missing measurement.



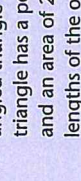
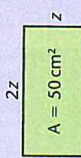
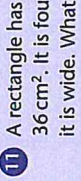
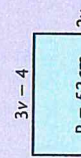
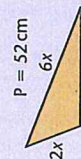
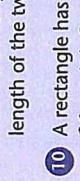
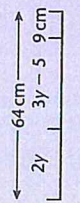
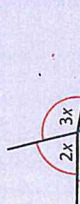
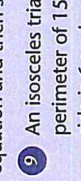
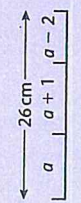
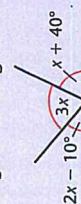
B

Write an equation to find the missing angles and lengths.



C

Write an equation and solve it to find the missing angles and lengths.



Answer each question by forming an equation and then solving it.

9 An isosceles triangle has a perimeter of 15 cm. Its longest side is 6 cm long. What is the length of the two equal sides (s)?

10 A rectangle has a perimeter of 26 cm. It is 3 cm longer than wide. What is its length (l)?

11 A rectangle has an area of 36 cm^2. It is four times as long as it is wide. What is its width (w)?

12 The shortest side of a right-angled triangle is 6 cm. The triangle has a perimeter of 24 cm and an area of 24 cm^2. Find the lengths of the other two sides (x and y).