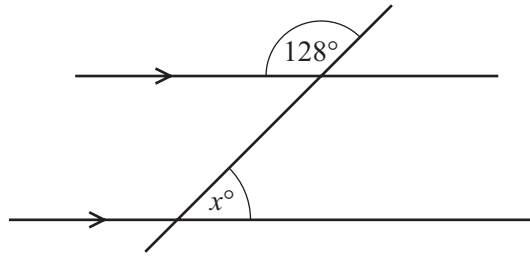


Circles / polygons / angles / parallel lines P1

1) (a)



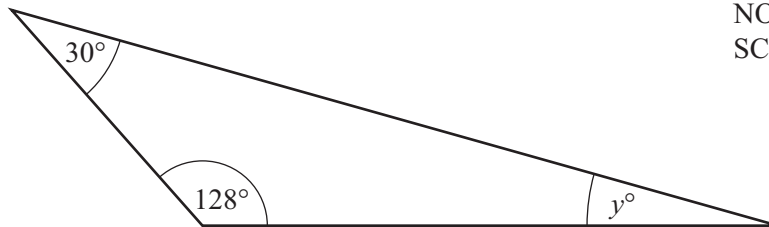
NOT TO SCALE

A straight line intersects two parallel lines as shown.

Find the value of x .

Answer(a) $x = \dots\dots\dots$ [2]

(b)

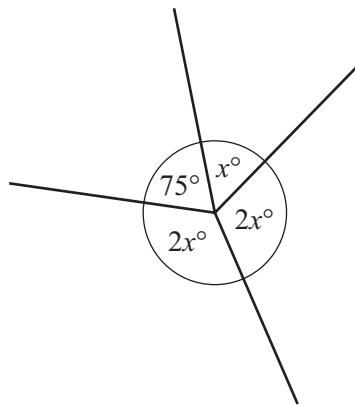


NOT TO SCALE

Calculate the value of y .

2)

Answer(b) $y = \dots\dots\dots$ [1]



NOT TO SCALE

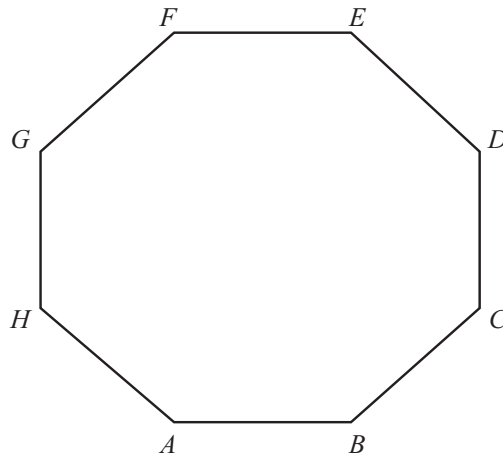
(a) For the diagram above, write down an equation in x .

Answer(a) $\dots\dots\dots$ [1]

(b) Solve your equation.

Answer(b) $x = \dots\dots\dots$ [2]

3)



NOT TO SCALE

$ABCDEFGH$ is a regular octagon.

(a) Show that angle $BCD = 135^\circ$.

Answer (a)

[2]

(b) Find

(i) angle DEB ,

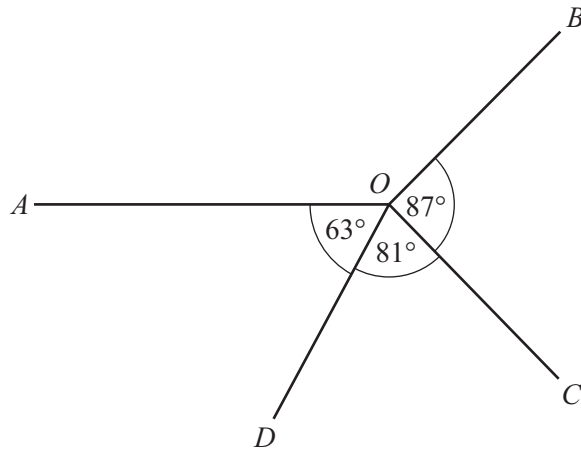
Answer(b)(i) Angle $DEB = \dots\dots\dots$ [1]

(ii) angle FEB .

Answer(b)(ii) Angle $FEB = \dots\dots\dots$ [1]

Circles / polygons / angles / parallel lines P1

4)



NOT TO SCALE

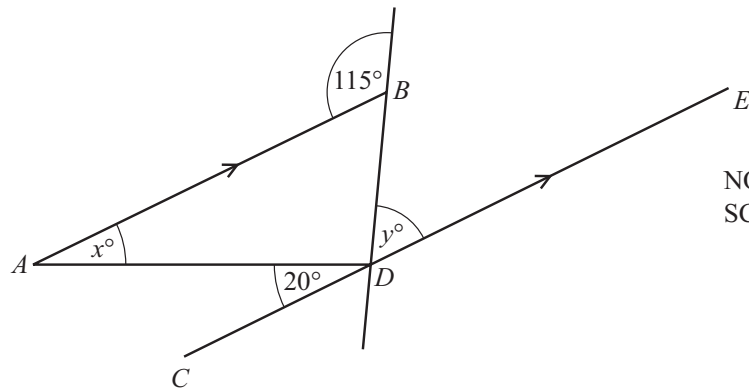
(a) Calculate the size of angle AOB .

Answer(a) Angle AOB = [1]

(b) What type of angle is angle AOB ?

Answer(b) [1]

5)



NOT TO SCALE

In the diagram, AB is parallel to CDE .
Find the value of

(a) x ,

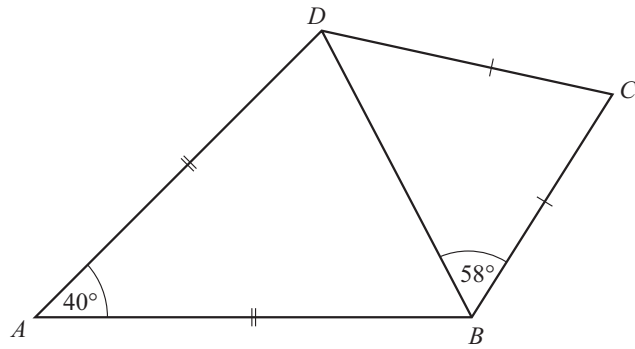
Answer(a) x = [1]

(b) y .

Answer(b) y = [2]

Circles / polygons / angles / parallel lines P1

6)



NOT TO SCALE

In the quadrilateral $ABCD$, $AB = AD$ and $CB = CD$.

Angle $BAD = 40^\circ$ and angle $CBD = 58^\circ$.

(a) Calculate

(i) angle ABD ,

Answer(a)(i) Angle $ABD = \dots\dots\dots$ [1]

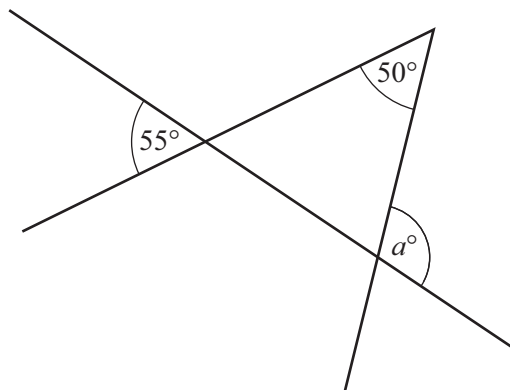
(ii) angle BCD .

Answer(a)(ii) Angle $BCD = \dots\dots\dots$ [1]

(b) Write down the mathematical name for the quadrilateral $ABCD$.

Answer(b) $\dots\dots\dots$ [1]

7)

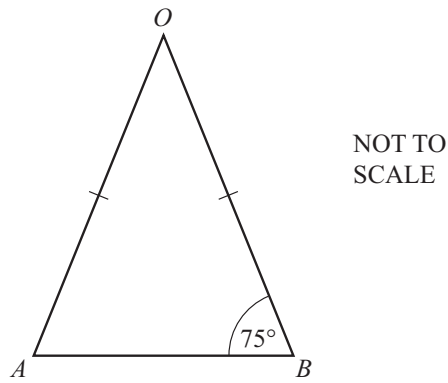


NOT TO SCALE

Use the information in the diagram to find the value of a .

Answer $a = \dots\dots\dots$ [2]

8)

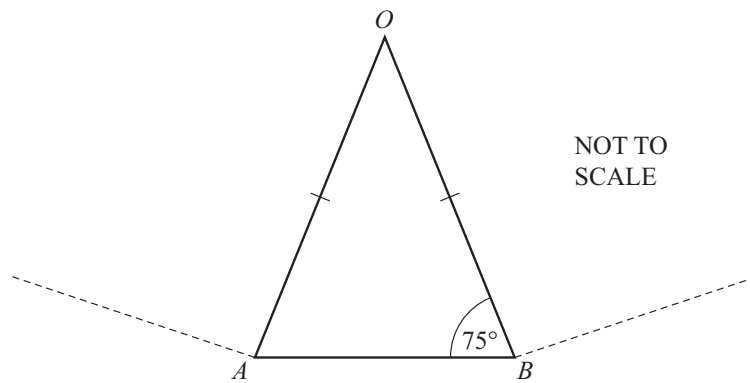


- (a) Triangle AOB is isosceles.
 $OA = OB$.

Calculate angle AOB .

Answer(a) Angle $AOB =$ [1]

(b)



AB is one side of a regular polygon with n sides.

- (i) Calculate n .

Answer(b)(i) $n =$ [2]

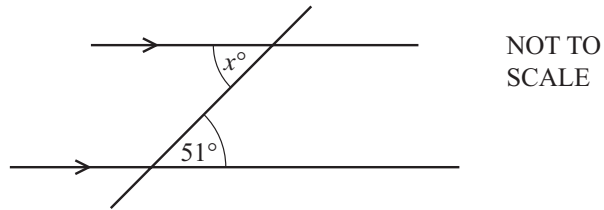
- (ii) Find the size of an interior angle of this polygon.

Answer(b)(ii) [1]

Circles / polygons / angles / parallel lines P1

9)

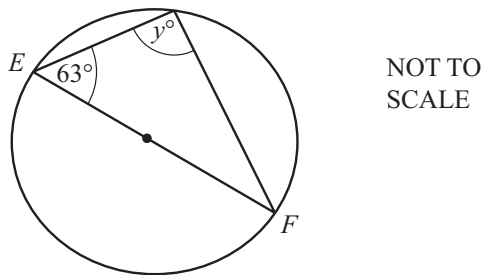
(a) Find the value of x .



Answer(a) $x =$ [1]

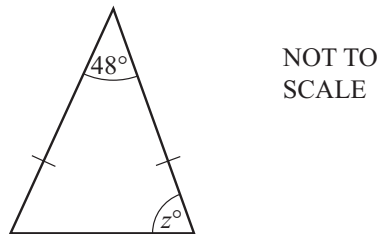
(b) EF is a diameter of the circle.

Find the value of y .



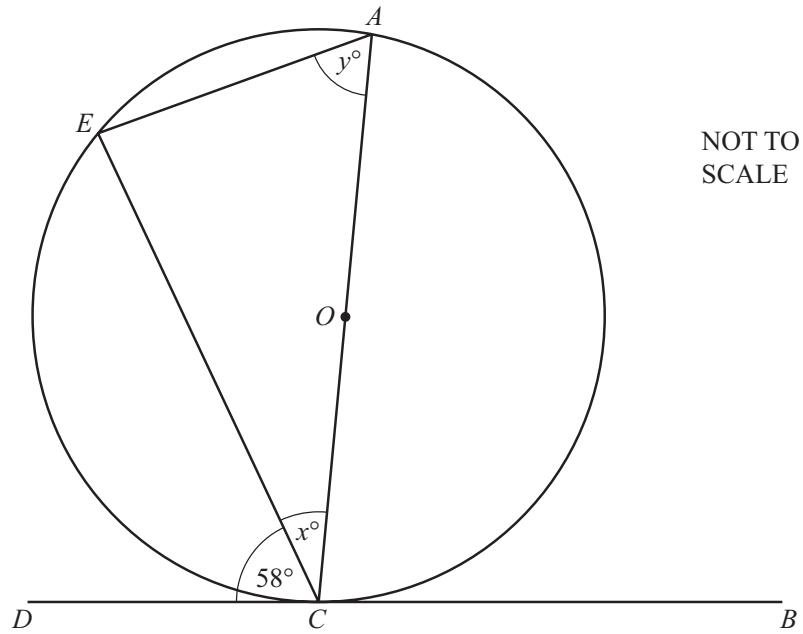
Answer(b) $y =$ [1]

(c) Find the value of z in this isosceles triangle.



Answer(c) $z =$ [1]

10)



AC is a diameter of a circle, centre O .
 BCD is a tangent to the circle and E is a point on the circumference.
 Angle $ECD = 58^\circ$.

Work out the value of

(a) x ,

Answer(a) $x = \dots\dots\dots$ [2]

(b) y .

Answer(b) $y = \dots\dots\dots$ [2]

Circles / polygons / angles / parallel lines P1

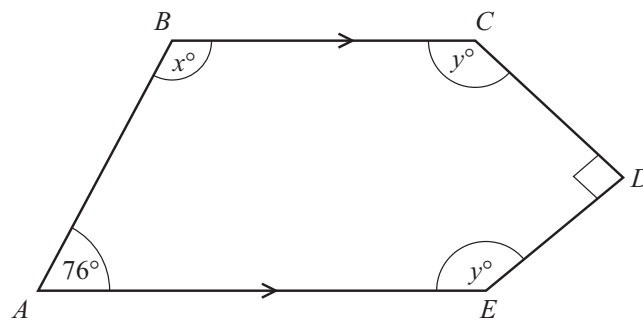
11)

(a) Show that the sum of the interior angles of a regular pentagon is 540° .

Answer(a)

[2]

(b)



NOT TO SCALE

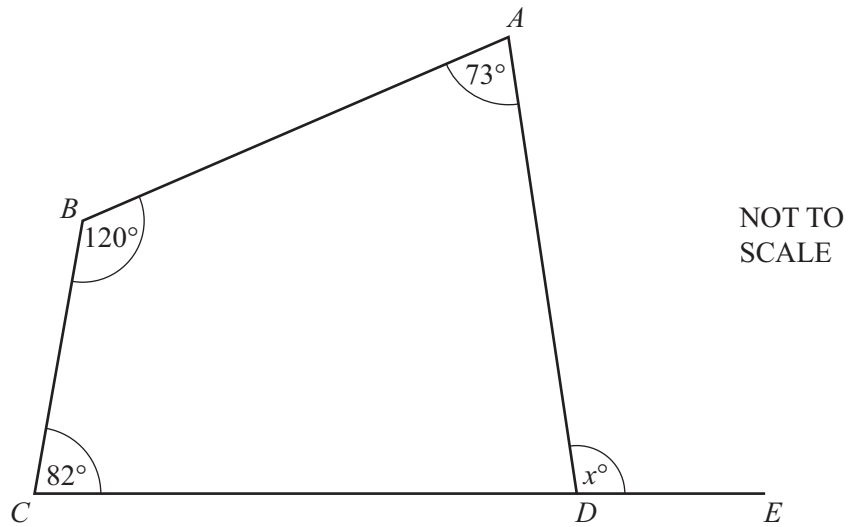
The diagram shows a pentagon $ABCDE$.
 BC is parallel to AE and angle CDE is a right angle.

Find the values of x and y .

Answer(b) $x =$

$y =$ [3]

12)

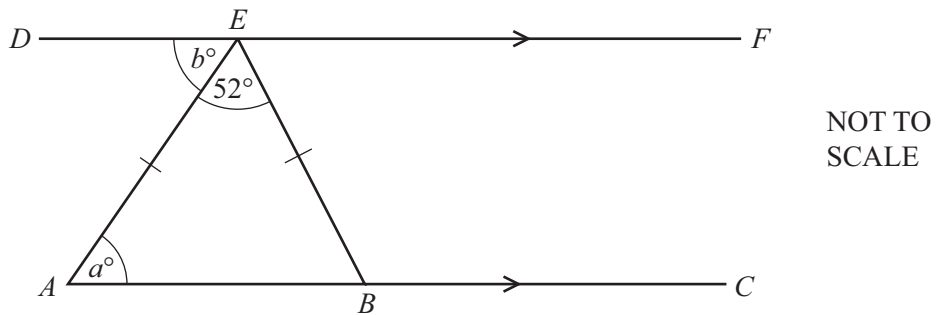


The diagram shows a quadrilateral $ABCD$.
 CDE is a straight line.

Calculate the value of x .

Answer $x =$ [2]

13)



In the diagram lines AC and DF are parallel and $AE = EB$.
 Angle $AEB = 52^\circ$.

(a) Write down the mathematical name for triangle AEB .

Answer(a) [1]

(b) Work out the value of a .

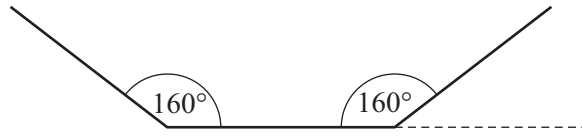
Answer(b) $a =$ [1]

(c) Explain why $a = b$.

Answer(c) [1]

14)

NOT TO
SCALE



The diagram shows part of a regular polygon.
Each interior angle of the polygon is 160° .
Calculate the number of sides of the polygon.

Answer [3]