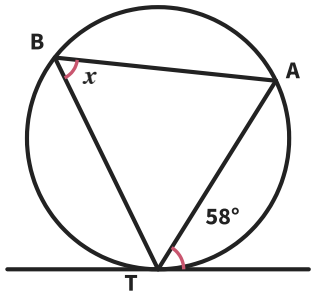
Circle theorems: the alternate segment theorem

1

The line is a tangent to the circle at T. Find angle x.



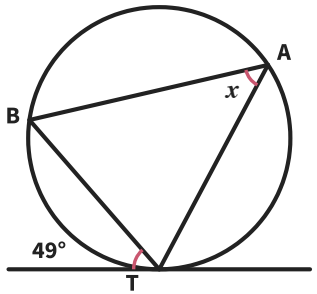
$x =$ ☐ °

alternate segment theorem

$x =$ _____

2

The line is a tangent to the circle at T. Find angle x.



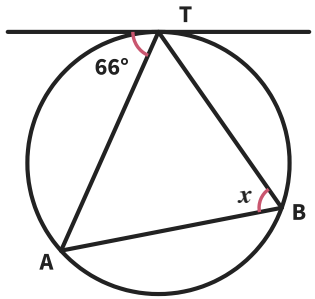
$x =$ ☐ °

alternate segment theorem

$x =$ _____

3

The line is a tangent to the circle at T. Find angle x. Give a reason.



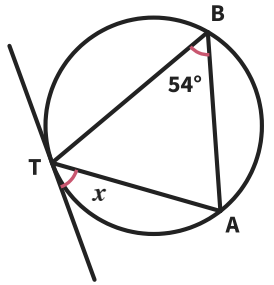
$x =$ ☐ °

_____

$x =$ _____

4

The line is a tangent to the circle at T. Find angle x. Give a reason.

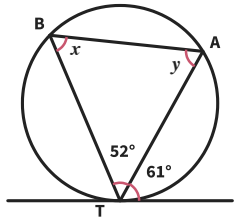


_____

$x =$ _____

5 *Notice the change!*

The line is a tangent to the circle at T. Find x and y.



$x =$ ☐ °

alternate segment theorem

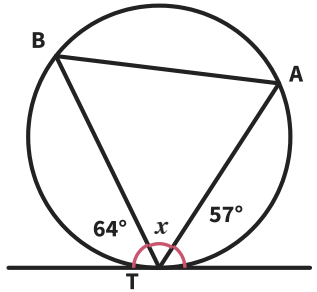
$y = 180 -$ ☐ $-$ ☐

angles in a triangle add up to 180°

$x, y =$ _____

6

The line is a tangent to the circle at T. Find angle x. Give a reason.



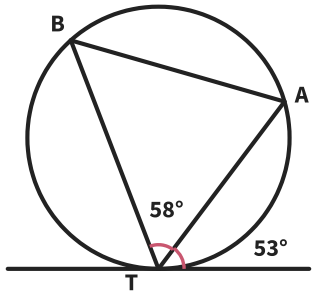
_____

_____

$x =$ _____

7

The line is a tangent to the circle at T. Chidi says angle TAB = 53°, by the alternate segment theorem.
Explain why Chidi is wrong.

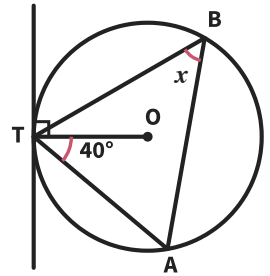


_____

_____

8

O is the centre. The line is a tangent to the circle at T. Find angle x.



_____

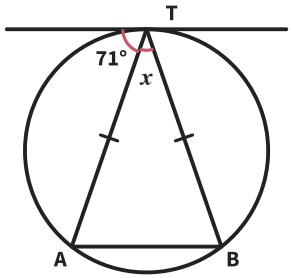
_____

$x =$ _____

Circle theorems: the alternate segment theorem *further practice*

9

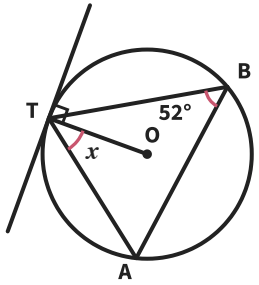
The line is a tangent to the circle at T. TA = TB. Find angle x. Give a reason for each step.



x = _____

10

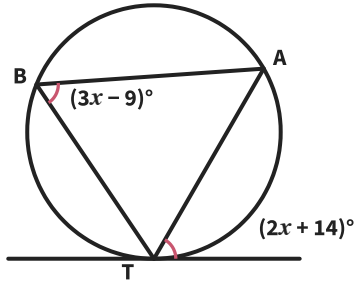
O is the centre. The line is a tangent to the circle at T. Find angle x. Give reasons.



x = _____

11

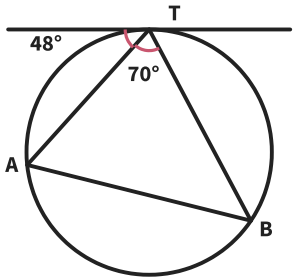
The line is a tangent to the circle at T. Find the value of x.



x = _____

12

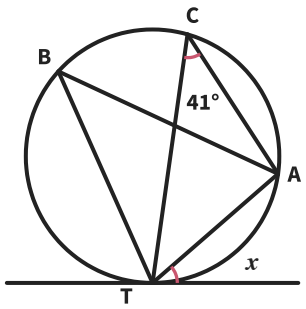
A round flower bed touches a straight path at T. Edging strips TA, TB and AB cross it. Find angle TAB. Give reasons.



Angle TAB = _____

13

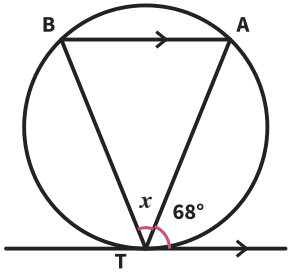
The line is a tangent to the circle at T. Find angle x. Give reasons.



x = _____

14

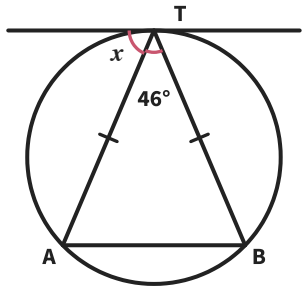
The line is a tangent to the circle at T. AB is parallel to the tangent. Find angle x. Give reasons.



x = _____

15

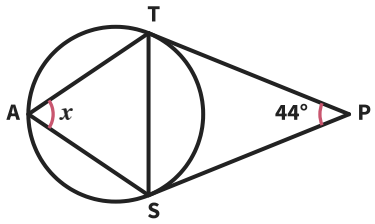
The line is a tangent to the circle at T. TA = TB. Find angle x. Give reasons.



x = _____

16

PT and PS are tangents to the circle. Find angle x. Give reasons.



x = _____