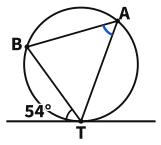
Circle theorems: alternate segment

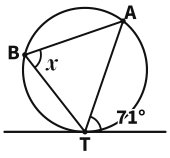
Exit ticket ANSWERS Name _____

1. The line is a tangent at T. Which angle in triangle TAB is also 54°? Mark it.



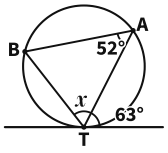
Angle TAB

2. The line is a tangent at T. Find x. Give a reason.



x = 71°, alternate segment

3. The line is a tangent at T. Find angle x.



x = 65°

The Maths Habit

Circle theorems: alternate segment

Exit ticket ANSWERS Name _____

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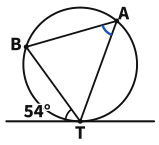

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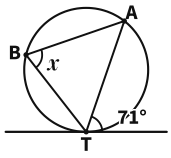

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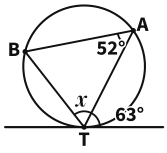

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The Maths Habit

Circle theorems: alternate segment

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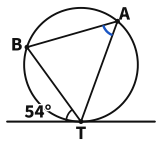

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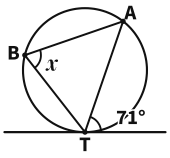

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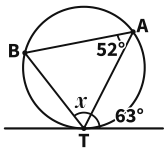

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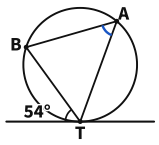

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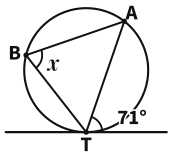

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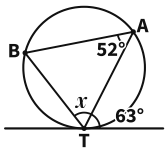

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The Maths Habit

Circle theorems: alternate segment

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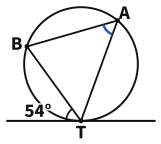

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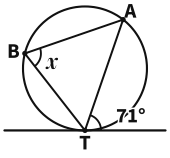

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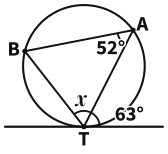

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The Maths Habit

Circle theorems: alternate segment

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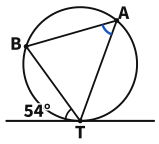

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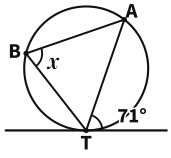

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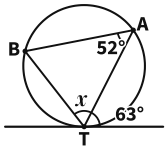
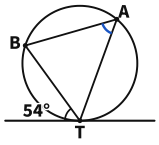


x = 65°

The Maths Habit

Exit ticket Circle theorems: alternate segment

1 **The line is a tangent at T. Which angle in triangle TAB is also 54°? Mark it.**



Angle TAB

TESTS Spotting the angle in the alternate segment

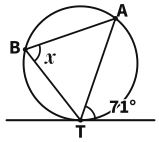
LOOK FOR
angle TBA the other end of chord TB: the equal angle is across the chord, at A
angle ATB next to the 54° at T, not in the other segment

FIX IT

The tangent at T makes 40° with the chord TA.
B is on the circle on the other side of TA.
Which angle in triangle TAB is also 40°? *angle TBA*

---

2 **The line is a tangent at T. Find x. Give a reason.**



x = 71°, alternate segment

TESTS Finding the angle with the alternate segment theorem, and its reason

LOOK FOR
19° took 71 from 90: there is no right angle here
109° took 71 from 180: the angles are equal

FIX IT

The angle between a tangent and a chord is 57°. Find the angle in the alternate segment. Give a reason. *57°, alternate segment theorem*

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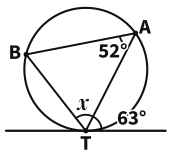
3 **The line is a tangent at T. Find angle x.**



x = 65°

TESTS The theorem, then the angles in a triangle

LOOK FOR
63° stopped after the theorem: 63° is angle TBA
117° took 63 from 180 and left out the 52°

FIX IT

The tangent at T makes 48° with the chord TA.
Angle TAB = 75°. Find angle ATB. *57°*