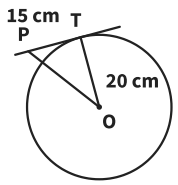
Circle theorems: tangents

Exit ticket ANSWERS Name _____

1. PT is a tangent at T and O is the centre. Angle TOP = 37°. Find angle OPT. Give a reason.

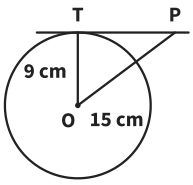
53°: a tangent meets a radius at 90°

2. PT is a tangent to the circle, centre O. Find OP.



OP = 25 cm

3. PT is a tangent to the circle, centre O. Find PT.



PT = 12 cm

The Maths Habit

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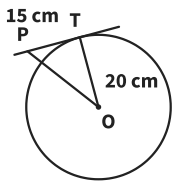

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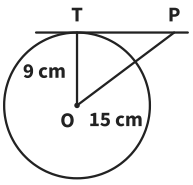

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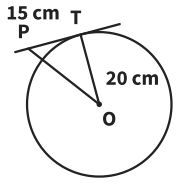

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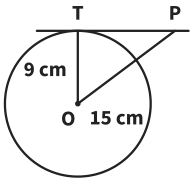

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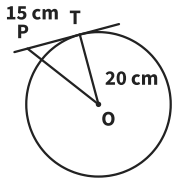

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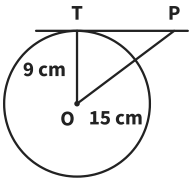

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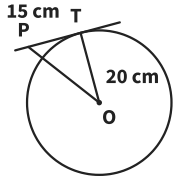

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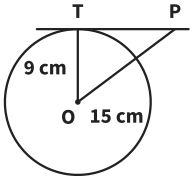

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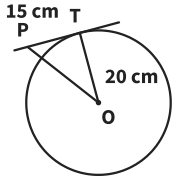

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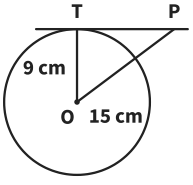


PT = 12 cm

The Maths Habit

Exit ticket Circle theorems: tangents

1 **PT is a tangent at T and O is the centre. Angle TOP = 37°. Find angle OPT. Give a reason.**

53°: a tangent meets a radius at 90°

TESTS The right angle at T, then angles in a triangle

LOOK FOR

143° 180 − 37: the 90° at T left out

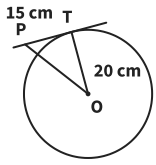
37° the angle at P copied

FIX IT

PT is a tangent at T and O is the centre. Angle OPT = 22°. Find angle TOP. *68°*

---

2 **PT is a tangent to the circle, centre O. Find OP.**



OP = 25 cm

TESTS The hypotenuse OP by Pythagoras

LOOK FOR

35 cm the lengths added: square them first

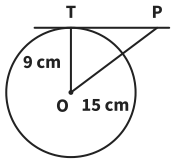
13.2 cm the squares subtracted: OP is the hypotenuse, so add

FIX IT

PT is a tangent at T and O is the centre. OT = 9 cm and PT = 40 cm. Find OP. *41 cm*

---

3 **PT is a tangent to the circle, centre O. Find PT.**



PT = 12 cm

TESTS A shorter side: OP is the hypotenuse

LOOK FOR

17.5 cm the squares added: PT is a shorter side, so subtract

6 cm the lengths subtracted: square them first

FIX IT

PT is a tangent at T and O is the centre. OT = 8 cm and OP = 10 cm. Find PT. *6 cm*