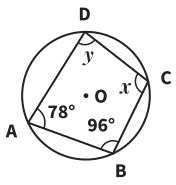
Circle theorems: cyclic quadrilaterals

Exit ticket ANSWERS Name _____

1. ABCD is a cyclic quadrilateral. Angle ABC = 63°.
Find angle ADC. Give a reason.

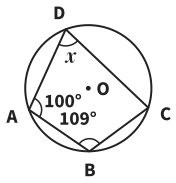
117°: opposite angles add up to 180°

2. ABCD is a cyclic quadrilateral.
Find x and y.



$x = 102°, y = 84°$

3. ABCD is a cyclic quadrilateral.
Find x.



$x =$ 71°

The Maths Habit

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Exit ticket Circle theorems: cyclic quadrilaterals

NEXT LESSON

1 **ABCD is a cyclic quadrilateral. Angle ABC = 63°. Find angle ADC. Give a reason.**

117°: opposite angles add up to 180°

TESTS Opposite angles add up to 180°, and the reason

LOOK FOR
- *63°* opposite angles read as equal
- *297°* 360 − 63: opposite angles add up to 180°, not 360°

FIX IT

PQRS is a cyclic quadrilateral. Angle QRS = 74°. Find angle QPS. *106°*

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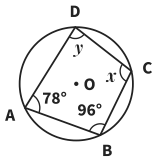
2 **ABCD is a cyclic quadrilateral. Find x and y.**



$x = 102°, y = 84°$

TESTS Two angles at once, each from the angle opposite it

LOOK FOR
- *$x = 84°$* the 96° next to x used: x is opposite 78°
- *$x = 78°, y = 96°$* the opposite angles copied, not taken from 180

FIX IT

ABCD is a cyclic quadrilateral.
Angle A = 65° and angle B = 112°.
Find angles C and D. *C = 115°, D = 68°*

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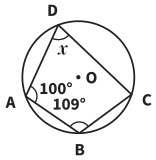
3 **ABCD is a cyclic quadrilateral. Find x.**



$x = 71°$

TESTS Choosing the angle opposite, not the one next to it

LOOK FOR
- *$x = 80°$* the 100° next to x used: x is opposite 109°
- *$x = 109°$* opposite angles read as equal

FIX IT

ABCD is a cyclic quadrilateral. Angle A = 94° and angle B = 118°. Find angle D. *62°*