MATHEMATICS · GRADES 7-9

Angles Around a Point

Difficulty level: Intermediate

Mathematics: Grades 7-9

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you work out a missing slice of a pie, a pizza, or a roundabout turn. All the angles around one spot add up to a full turn, so if you know the rest you can find the one that is missing. It is the same idea as knowing a whole pizza is there even when one slice is gone.



Rule

Angles around a point: angles around a point add to 360 degrees.

An angle bigger than 180 degrees is called a reflex angle.

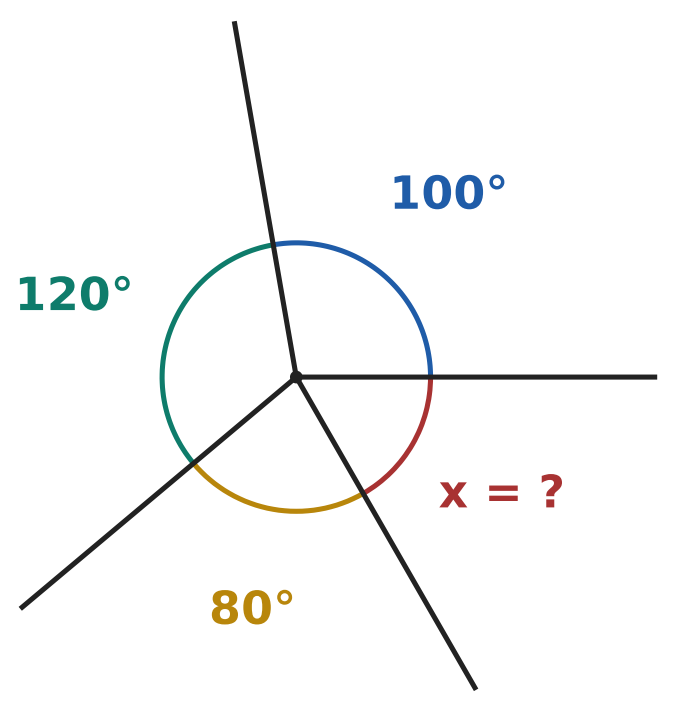
If you know all but one of the angles around a point, subtract the ones you know from 360 to find the missing one.

© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q Angles around a point are 100, 120, and 80 degrees, plus an unknown. Find the unknown.



SOLUTION

Going all the way around a point comes to 360 degrees.

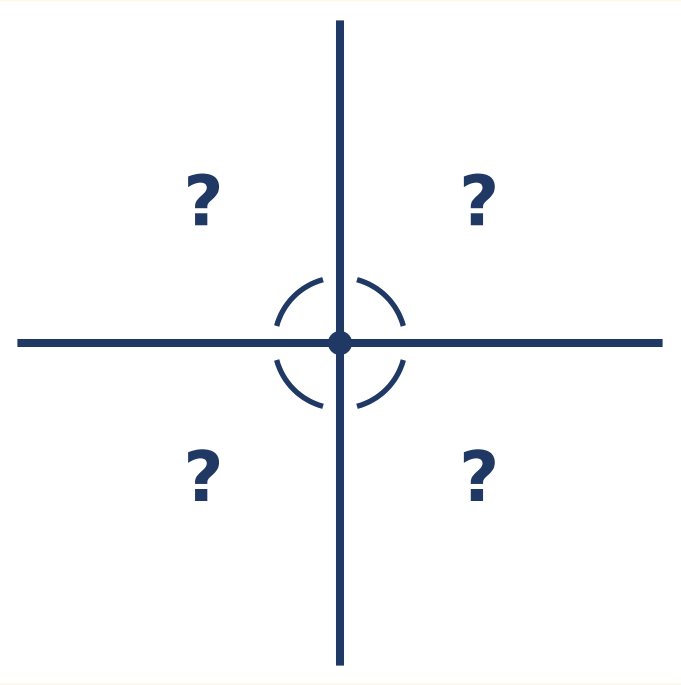
Add the known angles: 100 + 120 + 80 = 300

Subtract: 360 - 300 = 60. The unknown is 60 degrees.

© 2026 Brett Robbins. All Rights Reserved.

EXAMPLE 2

Q Angles around a point are four equal angles. Find each one.



SOLUTION

Going all the way around a point comes to 360 degrees.

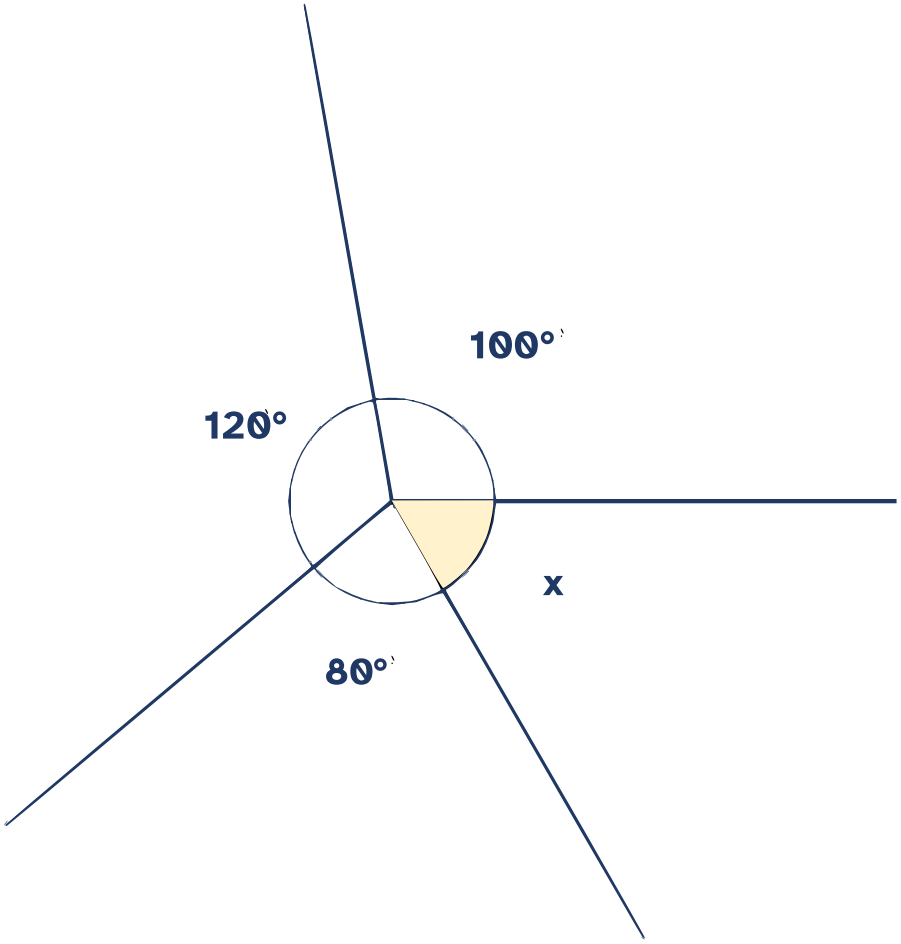
Divide by 4: $\frac{360}{4} = 90$

Each angle is 90 degrees.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 Four angles meet at a point in the diagram. Find the angle marked x.



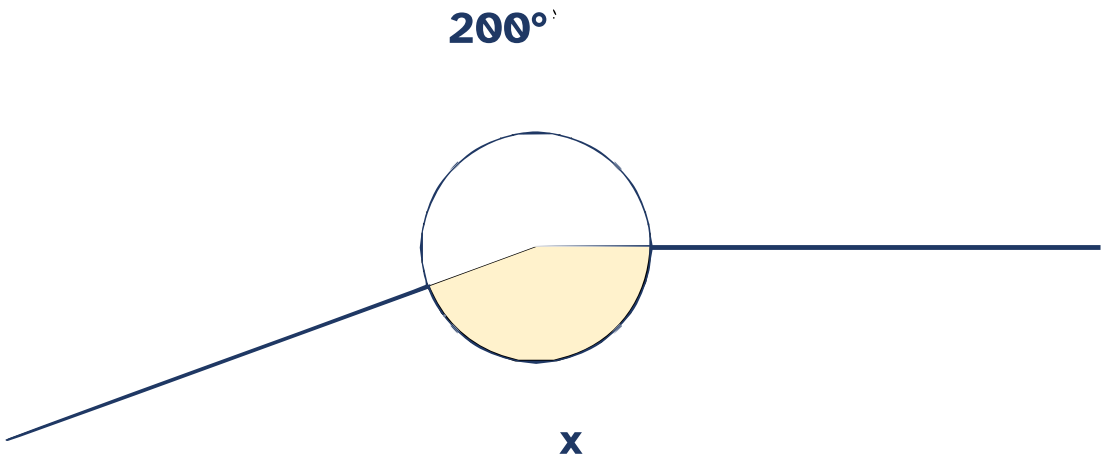
Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

2 **Two angles meet at a point. One is twice the other. Find the smaller angle.**

Understand It with Pulse | Flag a mistake

3 **Two angles meet at a point in the diagram, and one of them is a reflex angle. Find the angle marked x.**



Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

4 **Eight equal angles meet at a point. Find each angle.**

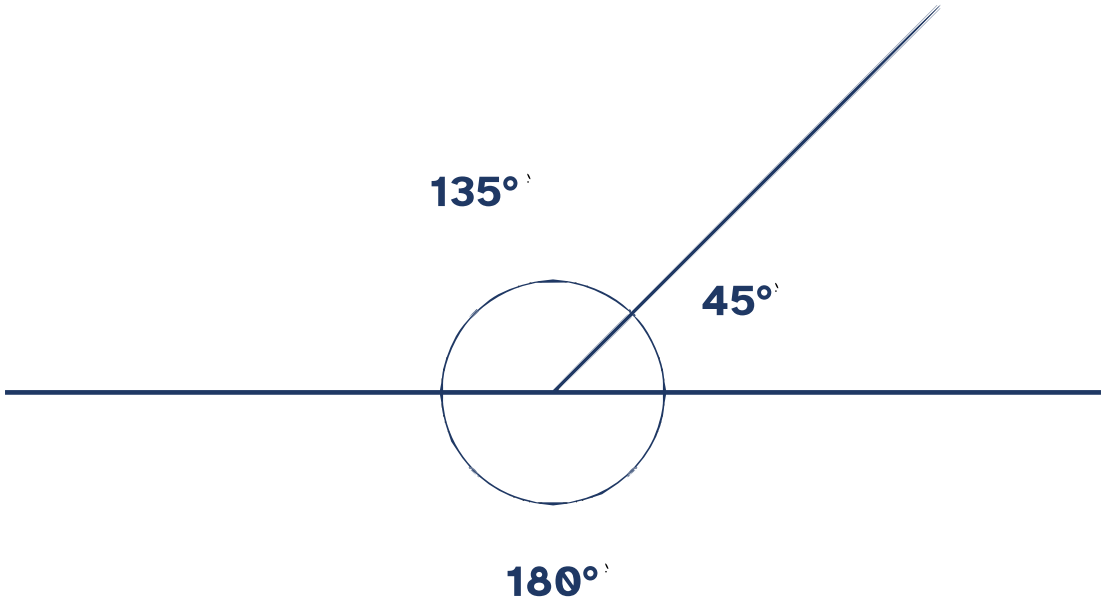
Understand It with Pulse | Flag a mistake

5 **Two angles meet at a point. One is 140 degrees. The other is a reflex angle. Find the reflex angle.**

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

6 **Three angles meet at a point in the diagram. Add them to check whether they make a full turn, and give the total.**

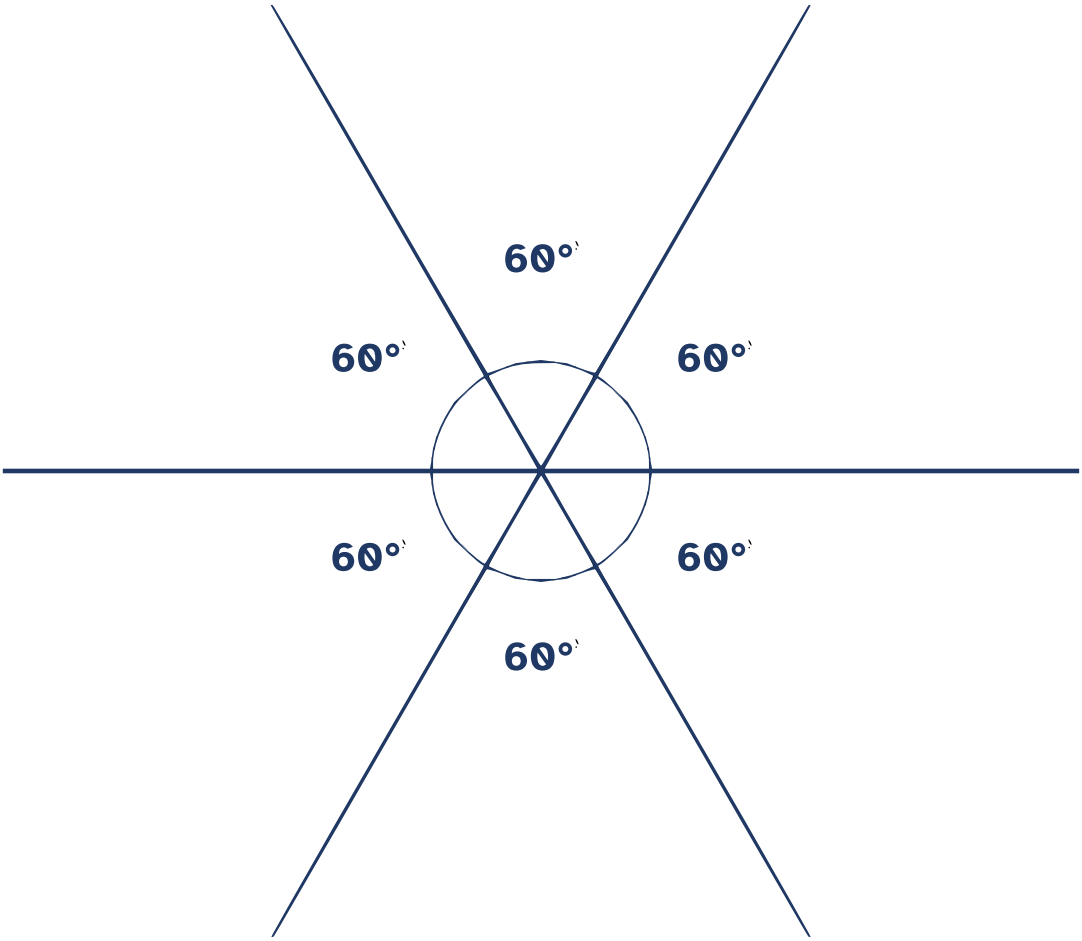


Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

7 **Six equal angles meet at a point in the diagram. What do they add to?**

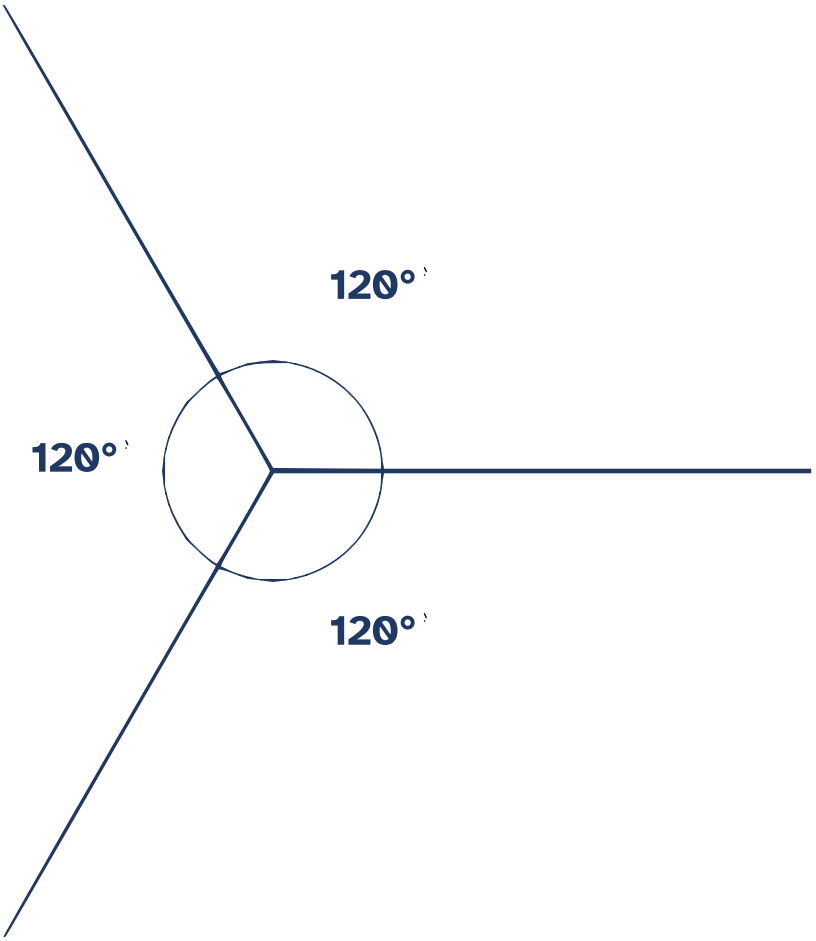


Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

8 **Three equal angles meet at a point in the diagram. Is that a full turn? Answer yes or no, and give the total.**



A No, 270 degrees

B Yes, 270 degrees

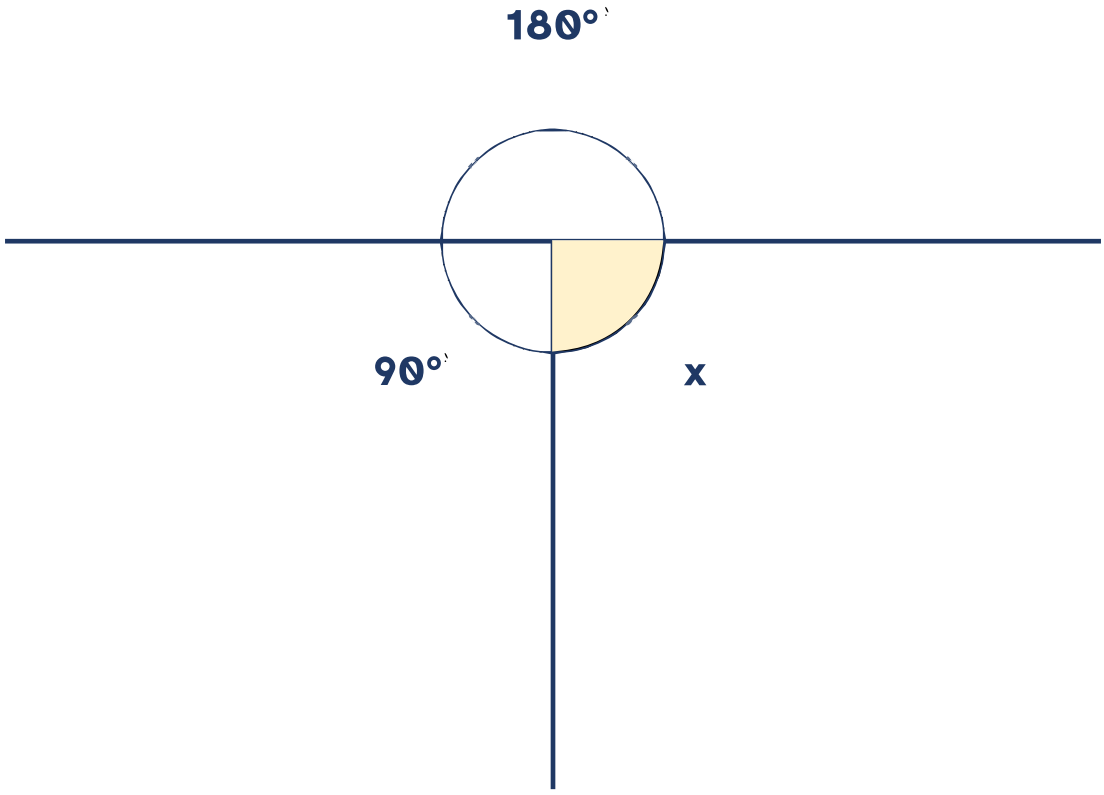
C No, 180 degrees

D Yes, 360 degrees

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

9 Three angles meet at a point in the diagram. Find the angle marked x.



Understand It with Pulse | Flag a mistake

10 An angle of 72 degrees is repeated around a point. How many copies make a full turn?

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. 60 degrees

2. 120 degrees

3. 160 degrees

4. 45 degrees

5. 220 degrees

6. 360 degrees

7. 360 degrees

8. Yes, 360 degrees

9. 90 degrees

10. 5

© 2026 Brett Robbins. All Rights Reserved.