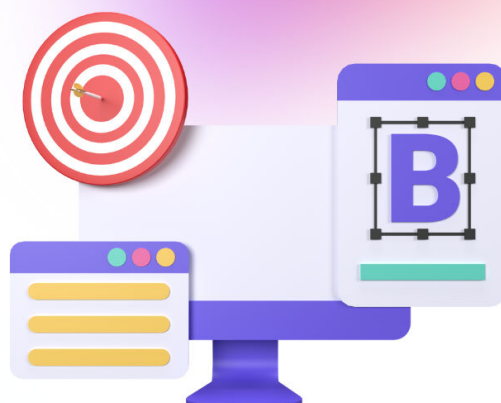


# AREA OF AN OCTAGON FORMULA

Polygons with 8 sides are known as octagons. Octagons are used in a variety of real-life applications like geometry and design. In geometry, it comes in handy in calculating the space occupied by shapes with 8 sides and in design and artwork, it helps create octagonal shapes like windows, lenses, etc.

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**Q1: What is the formula for calculating the area of a regular octagon?**

- A:  $A = s^2$
  - B:  $A = 2 * (1 + \sqrt{2}) * s^2$
  - C:  $A = 4 * s^2$
  - D:  $A = 8 * s^2$
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**Q2: If the side length of a regular octagon is 6 cm, what is its area?**

- A: 36 square cm
  - B: 48 square cm
  - C: 72 square cm
  - D: 144 square cm
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**Q3: If you know the apothem (distance from the centre to a side) of a regular octagon is 4 cm, what is its area?**

- A: 16 square cm
  - B: 32 square cm
  - C: 64 square cm
  - D: 128 square cm
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**Q4: What is an octagon?**

- A: A polygon with 8 sides
  - B: A polygon with 4 sides
  - C: A polygon with 5 sides
  - D: A polygon with 7 sides
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**Q5: What is not a property of an octagon?**

- A: An octagon always has 8 sides in total.
  - B: An octagon always has 8 angles.
  - C: All the interior angles in an octagon sum up to 1080 degrees.
  - D: An octagon has 6 sides in total.
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**Q6: What mistake will NOT lead to an inaccurate calculation of an octagon's area?**

- A: Using the formula:  $2 * (1+2) * s^2$
  - B: Using different units
  - C: Adding all the sides of the octagon
  - D: Adding all the octagon's sides and dividing the sum by 2
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**Q7: In a regular octagon, the sum of all interior angles is equal to?**

- A: 1080 degrees
  - B: 360 degrees
  - C: 270 degrees
  - D: 180 degrees
- 

**Q8: In a regular octagon, the sum of all exterior angles is equal to?**

- A: 1080 degrees
  - B: 360 degrees
  - C: 270 degrees
  - D: 180 degrees
- 

**Q9: In a regular octagon, each interior angle is equal to?**

- A: 90 degrees
  - B: 60 degrees
  - C: 135 degrees
  - D: 45 degrees
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**Q10: In a regular octagon, each exterior angle is equal to?**

- A: 90 degrees
  - B: 60 degrees
  - C: 135 degrees
  - D: 45 degrees
-



## Answers

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**Q1:**  $B - A = 2 * (1 + \sqrt{2}) * s^2$

**Q2:** C - 72 square cm

**Q3:** C - 64 square cm

**Q4:** A - A polygon with 8 sides

**Q5:** D - An octagon has 6 sides in total.

**Q6:** A - Using the formula:  $2 * (1+2) * s^2$

**Q7:** A - 1080 degrees

**Q8:** B - 360 degrees

**Q9:** C - 135 degrees

**Q10:** D - 45 degrees