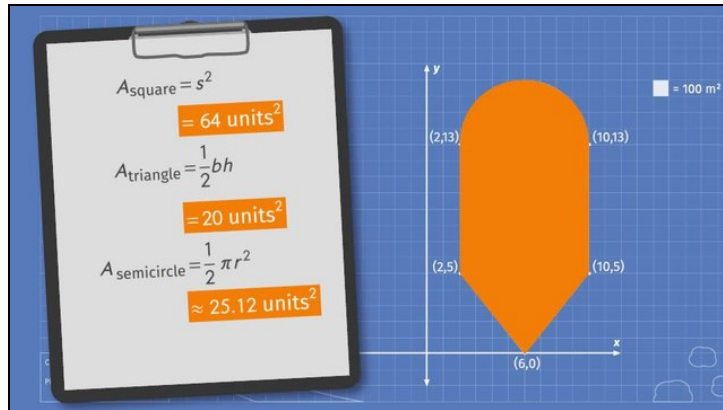




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Unknown Area Problems on the Coordinate Plane



- 1 Find the formulas for the different shapes.
- 2 Explain how to calculate the area of a composite shape on a coordinate plane.
- 3 Determine the area of the composite shape.
- 4 Determine the area of the new amusement park.
- 5 Find the errors in the calculations for the area of the composite shapes.
- 6 Determine how expensive the new school's playground is going to be.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Find the formulas for the different shapes.

Match the elements.

The area of a **circle** is given by...

A

The area of a **square** is given by...

B

The area of a **triangle** is given by...

C

The area of a **trapezoid** is given by...

D

1 ... $A = \frac{1}{3}bh$

2 ... $A = \frac{1}{2}(b + s)h$

3 ... $A = \frac{1}{2}bh$

4 ... $A = s^2$

5 ... $A = \pi r^2$

6 ... $A = \frac{1}{2}(b_1 + b_2)h$



Hints for solving these problems

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of 6

Find the formulas for the different shapes.

Hint #1

Take the special triangle, a right triangle. This is the half of a rectangle. So the area is the half of the product of both legs.

Hint #2

A square is a special rectangle.

The area of a rectangle is given by the formula $A = lh$.

where l is the length and h the height.



Answers and detailed answer explanations for these problems

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of 6

Find the formulas for the different shapes.

Answer key: A—5 // B—4 // C—3 // D—6

To determine areas of composite shapes you have to memorize several formulas for areas:

- A circle with the radius r has the area $A = \pi r^2$ where $\pi \approx 3.14$.
- A square with the side length s has the area $A = s^2$.
- A triangle with the base, b , and the corresponding height, h , has the area $A = \frac{1}{2}bh$.
- A trapezoid has two parallel sides with base lengths b_1 as well as b_2 . The height of the trapezoid is h . So we use the following formula to determine the area $A = \frac{1}{2}(b_1 + b_2)(h)$.