

DETERMINE THE AREA OF TRIANGLES AND QUADRILATERALS

- The **area** is the surface or space within an enclosed region. Area is expressed in square units.
- The formula for calculating the **area of a triangle** is $\frac{1}{2}$ base times height or $\frac{1}{2}bh$
- **Quadrilaterals** are two-dimensional shapes with four sides. A quadrilateral is also called a 4-sided polygon.
 - A **square** is a quadrilateral with parallel sides of equal length.
 - A **rectangle** is a quadrilateral with all sides parallel, the opposite sides are the same length
 - A **rhombus** is a quadrilateral with 4 equal sides, but the angles are not equal.
 - A **parallelogram** is a quadrilateral with two pairs of parallel sides.



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How to determine the area of a triangle:

Quadrilaterals:

- The formula for calculating the area of a triangle is $\frac{1}{2}$ base times height or $\frac{1}{2} b \times h$.
- To calculate the area of a triangle, input the values and complete the operation.
 - Base = 14in and height = 6in
 - Area = $\frac{1}{2}$ (14 X 6)
 - Area = 42 square inches

- The formula for calculating the area of square, rectangle or rhombus is length times height or $l \times h$.
 - Length = 23 feet and width = 12 feet
 - Area = 23×12
 - Area = 176 square feet



- The formula for the area of a trapezoid is $\frac{1}{2} (b_1 + b_2) h$



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- Area = $\frac{1}{2} (14) \times 11 = 7 \times 11 = 77 \text{ sq. cm}$



- To calculate the area of a quadrilateral or a triangle, choose the correct formula, input the values, and perform the operations.

Try This:

Calculate the area for:

A triangle with a base of 5cm and a height of 12cm

A square with sides of 34 feet

A rectangle w



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A rhombus with sides of 40mm

A trapezoid with bases of 4 inches and 9 inches and a height of 10 inches
