Exam Hunter
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GEOMETRY
Quadrilateral

Quadrilaterals

Quadrilateral is a polygon with four sides

Parallelogram is a polygon in which both pairs of opposite sides are parallel

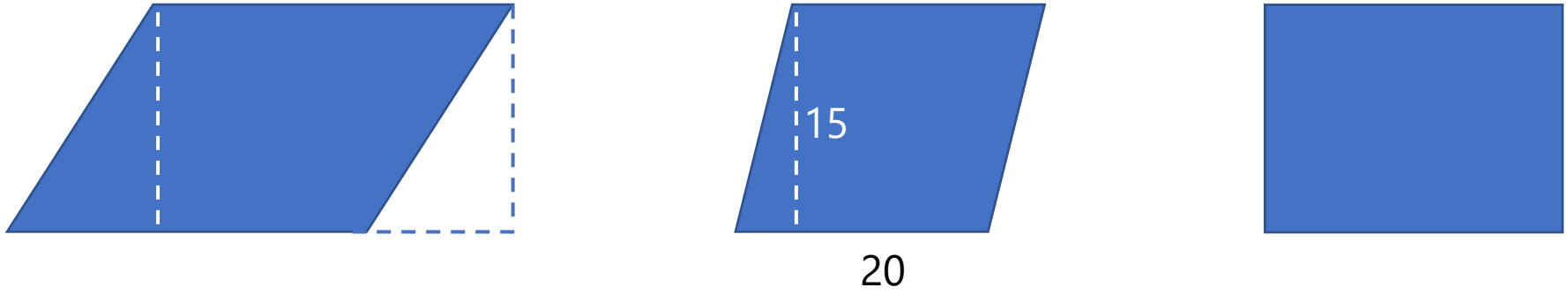
- All parallelograms are quadrilaterals but not all quadrilaterals are parallelograms
- The opposite sides have equal length

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Parallelogram

The area of parallelogram is equal to

- Length of altitude * length of base

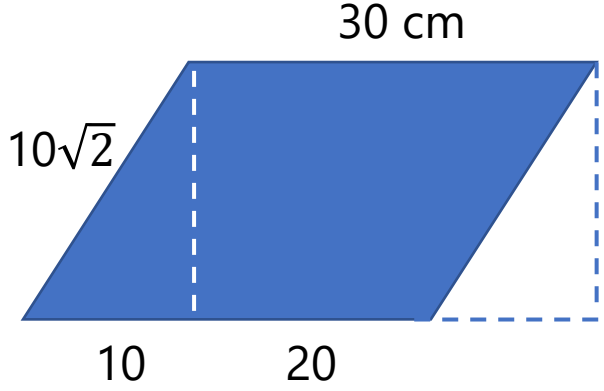


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Parallelogram

The area of parallelogram is equal to

- Length of altitude * length of base
- $10\sqrt{2}$ → 10^2* $\sqrt{2}^2$ = 100*2 = 200 – 10^2 = height^2 → 10



$\sqrt{2} * \sqrt{2} = 2$

$\sqrt{x} * \sqrt{x} = x$

$a^2 * b^2 = (ab)^2$

$\frac{a^2}{b^2} = \left(\frac{a}{b}\right)^2$

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Rectangle

Quadrilateral in which both pairs of opposite sides are parallel = parallelogram

Parallelogram with right angles is a rectangle

- All rectangle is a parallelogram
- All rectangle is a quadrilateral



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Square

Rectangle with all sides equal is a square

All squares are rectangle

All squares are parallelogram

All squares are quadrilateral



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Rhombus

Rhombus is a quadrilateral whose 4 sides have the same length

A rhombus is a parallelogram with all sides equal

A square is a rhombus with right angles

A square is a rectangle with all sides equal

All rhombuses are parallelogram

All squares are rhombus



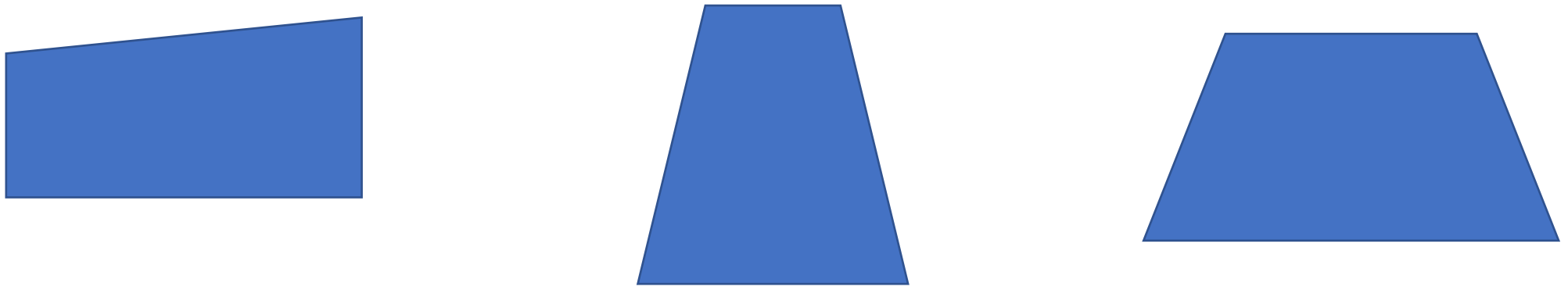
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Trapezoid

Trapezoid is a quadrilateral with two sides (one pair) parallel.

The paralleled pair needs not equal

All parallelogram are trapezoid (because trapezoid only requires one paralleled pair while parallelogram already has two pairs)

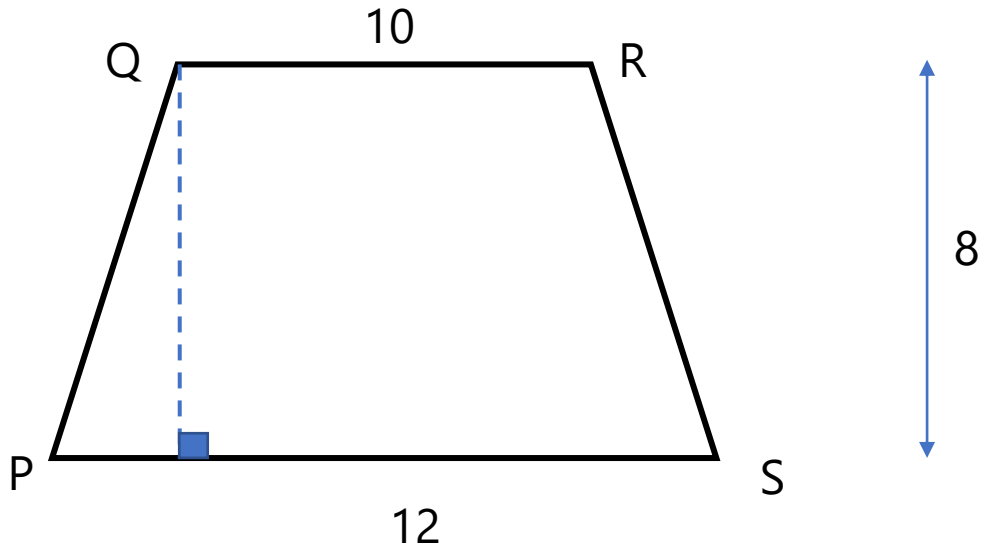


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Area of Trapezoid

½ * (the sum of the lengths of the bases//sum of parallel sides) (height)

(10+12)*8/2 = 22*4 = 88



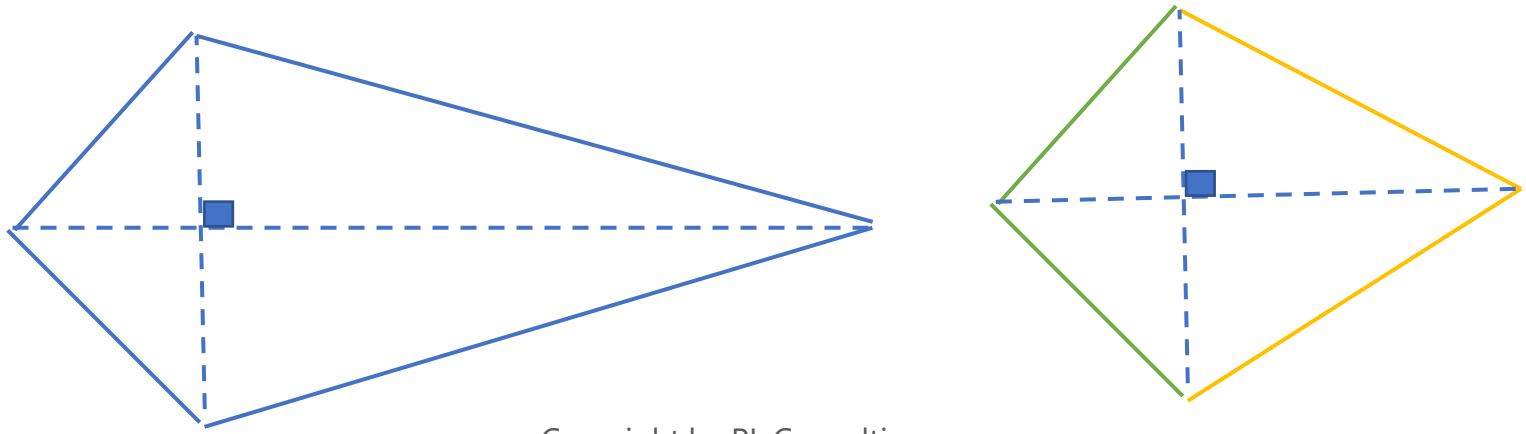
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Kite

A kite is a quadrilateral that have two pairs of equal-length sides that are adjacent (connect) to each other.

This makes its two diagonals perpendicular to each other and so the area is base*altitude of the two triangles inside

Area = ½ * diagonal p* diagonals q



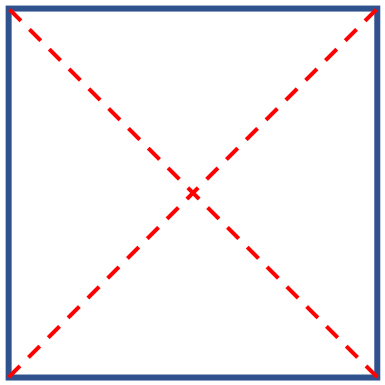
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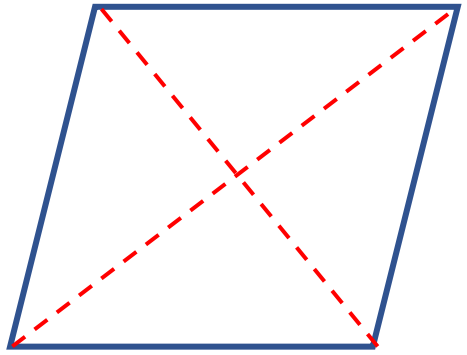
Kite (2)

Square and rhombus are also kite because the sides connecting to each other has equal length

So, this formular works with square and rhombus too

But, rectangular and parallelism can be kites but not always





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