

Important Tangential Quadrilateral Formulas PDF



Formulas Examples with Units

List of 9 Important Tangential Quadrilateral Formulas

1) Area, Perimeter and Radius of Tangential Quadrilateral Formulas

1.1) Area of Tangential Quadrilateral Formula

Formula

$$A = (S_a + S_c) \cdot r_i$$

Example with Units

$$120\text{m}^2 = (8\text{m} + 4\text{m}) \cdot 10\text{m}$$

Evaluate Formula

1.2) Inradius of Tangential Quadrilateral given Area Formula

Formula

$$r_i = \frac{A}{S_a + S_c}$$

Example with Units

$$10\text{m} = \frac{120\text{m}^2}{8\text{m} + 4\text{m}}$$

Evaluate Formula

1.3) Perimeter of Tangential Quadrilateral Formula

Formula

$$P = S_a + S_b + S_c + S_d$$

Example with Units

$$24\text{m} = 8\text{m} + 7\text{m} + 4\text{m} + 5\text{m}$$

Evaluate Formula

2) Side of Tangential Quadrilateral Formulas

2.1) Side A of Tangential Quadrilateral given Area Formula

Formula

$$S_a = \frac{A}{r_i} - S_c$$

Example with Units

$$8\text{m} = \frac{120\text{m}^2}{10\text{m}} - 4\text{m}$$

Evaluate Formula

2.2) Side A of Tangential Quadrilateral given other Sides Formula

Formula

$$S_a = S_b + S_d - S_c$$

Example with Units

$$8\text{m} = 7\text{m} + 5\text{m} - 4\text{m}$$

Evaluate Formula

2.3) Side B of Tangential Quadrilateral given other Sides Formula

Formula

$$S_b = S_a + S_c - S_d$$

Example with Units

$$7\text{m} = 8\text{m} + 4\text{m} - 5\text{m}$$

Evaluate Formula



2.4) Side C of Tangential Quadrilateral given Area Formula

Formula

$$S_c = \frac{A}{r_i} - S_a$$

Example with Units

$$4\text{ m} = \frac{120\text{ m}^2}{10\text{ m}} - 8\text{ m}$$

Evaluate Formula 

2.5) Side C of Tangential Quadrilateral given other Sides Formula

Formula

$$S_c = S_b + S_d - S_a$$

Example with Units

$$4\text{ m} = 7\text{ m} + 5\text{ m} - 8\text{ m}$$

Evaluate Formula 

2.6) Side D of Tangential Quadrilateral given other Sides Formula

Formula

$$S_d = S_a + S_c - S_b$$

Example with Units

$$5\text{ m} = 8\text{ m} + 4\text{ m} - 7\text{ m}$$



Evaluate Formula 



Variables used in list of Tangential Quadrilateral Formulas above

- **A** Area of Tangential Quadrilateral (*Square Meter*)
- **P** Perimeter of Tangential Quadrilateral (*Meter*)
- **r_i** Inradius of Tangential Quadrilateral (*Meter*)
- **S_a** Side A of Tangential Quadrilateral (*Meter*)
- **S_b** Side B of Tangential Quadrilateral (*Meter*)
- **S_c** Side C of Tangential Quadrilateral (*Meter*)
- **S_d** Side D of Tangential Quadrilateral (*Meter*)


Constants, Functions, Measurements used in list of Tangential Quadrilateral Formulas above

- **Measurement: Length** in Meter (m)
Length Unit Conversion 
- **Measurement: Area** in Square Meter (m²)
Area Unit Conversion 




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