

7. How to substitute numbers into formula



Scenario Questions:

1. The area of a rectangle is given by the formula: $A = \text{length} \times \text{width}$. If the length is 5 meters and the width is 3 meters, what is the area of the rectangle?

2. The speed of an object is given by the formula; $\text{speed} = \text{distance} \div \text{time}$. If a car travels 200 kilometres in 4 hours, what is its average speed?

3. The volume of a cylinder is given by the formula: $V = \pi r^2 h$, where $\pi = 3.14$, r is the radius and h is the height. If the radius is 2m and the height is 6m, what is the volume of the cylinder?

4. Simple interest is calculated by: $I = P \times (r \div 100) \times t$, where P is the amount, r is the rate, and t is the time. If the amount is £1000, the rate is 5%, and time is 2 years, what is the simple interest?

5. The area of a circle is given by the formula: $A = \pi r^2$, where $\pi = 3.14$ and r is the radius. If the radius is 7 centimetres, what is the area of the circle?

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Scenario Questions:

6. The perimeter of a square is given by the formula: $P = 4s$, where s is the length of one side. If the side length is 10 meters, what is the perimeter of the square?

7. The Fahrenheit to Celsius conversion formula is: $C = (F - 32) \div 1.8$. If the temperature is 68 degrees Fahrenheit, what is the temperature in Celsius?

8. The body mass index (BMI) is calculated using: $BMI = \text{weight} \div \text{height}^2$, where weight is in kilograms and height in meters. If a person weighs 70kg and their height is 1.75m, what is their BMI?

9. The area of a triangle is given by the formula: $A = \frac{1}{2} \times \text{base} \times \text{height}$. If the base is 8 meters and the height is 5 meters, what is the area of the triangle?

10. Discount amount is given by the formula: $\text{discount} = \text{original price} \times \text{discount rate} \div 100$. If the original price is £50 and the discount rate is 20%, what is the discount amount?

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Scenario Questions: **Answers**

1. The area of a rectangle is given by the formula: $A = \text{length} \times \text{width}$. If the length is 5 meters and the width is 3 meters, what is the area of the rectangle?

1. The area of the rectangle is 15 square meters

2. The speed of an object is given by the formula; $\text{speed} = \text{distance} \div \text{time}$. If a car travels 200 kilometres in 4 hours, what is its average speed?

2. The average speed of the car is 50 kilometres per hour.

3. The volume of a cylinder is given by the formula: $V = \pi r^2 h$, where $\pi = 3.14$, r is the radius and h is the height. If the radius is 2 meters and the height is 6 meters, what is the volume of the cylinder?

3. The volume of the cylinder is approximately 75.4 cubic meters

4. The simple interest is given by the formula: $I = P \times (r \div 100) \times t$, where P is the principal amount, r is the interest rate, and t is the time in years. If the principal amount is £1000, the interest rate is 5%, and the time is 2 years, what is the simple interest?

4. The simple interest on the loan is £100.

5. The area of a circle is given by the formula: $A = \pi r^2$, where $\pi = 3.14$ and r is the radius. If the radius is 7 centimetres, what is the area of the circle?

5. The area of the circle is approximately 153.9 square centimetres.

6. The perimeter of a square is given by the formula: $P = 4s$, where s is the length of one side. If the side length is 10 meters, what is the perimeter of the square?

6. The perimeter of the square is 40 meters.

7. The Fahrenheit to Celsius conversion formula is: $C = (F - 32) \div 1.8$. If the temperature is 68 degrees Fahrenheit, what is the temperature in Celsius?

7. The temperature in Celsius is 20 degrees.

8. The body mass index (BMI) is calculated using the formula: $\text{BMI} = \text{weight} \div \text{height}^2$, where weight is in kilograms and height is in meters. If a person weighs 70 kilograms and their height is 1.75 meters, what is their BMI?

8. The BMI of the person is approximately 22.9.

9. The area of a triangle is given by the formula: $A = 1/2 \times \text{base} \times \text{height}$. If the base is 8 meters and the height is 5 meters, what is the area of the triangle?

9. The area of the triangle is 20 square meters.

10. Discount amount is given by the formula: $\text{discount} = \text{original price} \times \text{discount rate} \div 100$. If the original price is £50 and the discount rate is 20%, what is the discount amount?

10. The discount amount is £10.