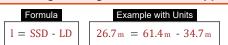
Important Stopping Sight Distance Formulas PDF



List of 12

Important Stopping Sight Distance Formulas

1) Braking Distance given Lag Distance and Stopping Sight Distance Formula 🕝



Evaluate Formula

Evaluate Formula (

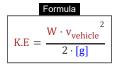
Evaluate Formula C

2) Braking Distance of Vehicle during Braking Operation Formula 🕝



Formula Example with Units
$$1 = \frac{v_{vehicle}}{2 \cdot [\mathbf{g}] \cdot \mathbf{f}} \quad 203.1613 \, \text{m} = \frac{28.23 \, \text{m/s}^2}{2 \cdot 9.8066 \, \text{m/s}^2 \cdot 0.2}$$

3) Kinetic Energy of Vehicle at Design Speed Formula [7]





4) Lag Distance given Stopping Sight Distance and Braking Distance Formula C



Example with Units
$$13.4_{\text{m}} = 61.4_{\text{m}} - 48_{\text{m}}$$

Evaluate Formula 🕝

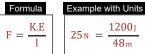
5) Maximum Frictional Force Developed during Braking Operation of Vehicle Formula 🕝 Evaluate Formula





6) Maximum Frictional Force given Kinetic Energy of Vehicle at Design Speed Formula 🕝

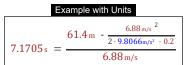




Evaluate Formula

7) Reaction Time given Stopping Sight Distance and Vehicle Velocity Formula 🕝





Evaluate Formula (

8) Stopping Sight Distance given Lag Distance and Braking Distance Formula [7]



Example with Units
$$82.7 \,\mathrm{m} = 34.7 \,\mathrm{m} + 48 \,\mathrm{m}$$

Evaluate Formula

Evaluate Formula (

Evaluate Formula (

Evaluate Formula (

9) Stopping Sight Distance given Vehicle Velocity and Reaction Time of Vehicle Formula 🕝

$$\begin{aligned} & & & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ &$$

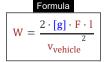
Example with Units
$$80.8669 \, \text{m} \ = \ 6.88 \, \text{m/s} \, \cdot 10 \, \text{s} \ + \frac{6.88 \, \text{m/s}}{2 \cdot 9.8066 \, \text{m/s}^2 \cdot 0.2}$$

10) Velocity of Vehicle given Braking Distance after Braking Operation Formula 🕝

Formula
$$v_{\text{vehicle}} = \sqrt{2 \cdot [\mathbf{g}] \cdot \mathbf{f} \cdot \mathbf{l}}$$



11) Weight of Vehicle given Kinetic Energy of Vehicle at Design Speed Formula 🕝





12) Work Done against Friction in Stopping Vehicle Formula 🕝

 $W_{\text{vehicle}} = f \cdot W \cdot l$



Evaluate Formula (

Variables used in list of Stopping Sight Distance Formulas above

- f Coefficient of Friction
- F Maximum Frictional Force (Newton)
- K.E Kinetic Energy of Vehicle at Design Speed (Joule)
- I Braking Distance (Meter)
- LD Lag Distance (Meter)
- SSD Sight Stopping Distance (Meter)
- t_{reaction} Reaction Time (Second)
- V_{speed} Vehicle Speed (Meter per Second)
- V_{vehicle} Velocity (Meter per Second)
- W Total Weight of Vehicle (Kilogram)
- W_{vehicle} Work done against Friction (Joule)

Constants, Functions, Measurements used in list of Stopping Sight Distance Formulas above

- constant(s): [g], 9.80665
 Gravitational acceleration on Earth
- Functions: sqrt, sqrt(Number)
 A square root function is a function that takes a non-negative number as an input and returns the square root of the given input number.
- Measurement: Length in Meter (m)
 Length Unit Conversion
- Measurement: Weight in Kilogram (kg)
 Weight Unit Conversion
- Measurement: Time in Second (s)

 Time Unit Conversion
- Measurement: Speed in Meter per Second (m/s)
 Speed Unit Conversion
- Measurement: Energy in Joule (J)
 Energy Unit Conversion
- Measurement: Force in Newton (N)
 Force Unit Conversion

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HCF of two numbers

🛂 Improper fraction 🗂

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