Unit 5 : Length

Friendly Notes

Meters and Centimeters

The meter (m) and centimeter (cm) are units of length.

\[ 1 \text{ m} = 100 \text{ cm} \]

1. Write 2 m 64 cm in cm.

\[ 2 \text{ m} 64 \text{ cm} = 200 \text{ cm} + 64 \text{ cm} = 264 \text{ cm} \]

2. Write 839 cm in m and cm.

\[ 839 \text{ cm} = 800 \text{ cm} + 39 \text{ cm} \]
\[ 8 \text{ m} = 800 \text{ cm} \]

\[ 839 \text{ cm} = 8 \text{ m} 39 \text{ cm} \]
3. Find the sum of 2 m 35 cm and 60 cm.

\[ 2 \text{ m } 35 \text{ cm} + 60 \text{ cm} = 2 \text{ m } 95 \text{ cm} \]

4. Find the difference between 3 m 18 cm and 1 m 30 cm.

\[ 3 \text{ m } 18 \text{ cm} = 318 \text{ cm} \]
\[ 1 \text{ m } 30 \text{ cm} = 130 \text{ cm} \]

\[ 318 \text{ cm} - 130 \text{ cm} = 188 \text{ cm} \]

\[ = 1 \text{ m } 88 \text{ cm} \]
Kilometers

The kilometer (km) is another unit of length.

We use the kilometer to measure long distances such as the length of a road or the distance we travel from one place to another.

1 km = 1,000 m

1. Write 4 km 208 m in m.

4 km 208 m = 4,208 m

2. Write 7,090 m in km and m.

7,090 m = 7 km 90 m
3. Find the sum of 1 km 206 m and 1 km 590 m.

\[
1 \text{ km} 206 \text{ m} + 1 \text{ km} 590 \text{ m} = 2 \text{ km} 796 \text{ m}
\]

4. Find the difference between 2 km and 1 km 207 m.

\[
2 \text{ km} - 1 \text{ km} 207 \text{ m} = 793 \text{ m}
\]
Yards, Feet, and Inches

The yard (yd), foot (ft), and inch (in.) are other units of length.

1 yd is shorter than a meter.

1 yd = 3 ft
1 ft = 12 in.

1. Write 12 yd in feet.

\[
1 \text{ yd} = 3 \text{ ft} \\
12 \text{ yd} = 12 \times 3 \text{ ft} \\
= 36 \text{ ft}
\]

12 yd = 36 ft

2. Write 15 yd 4 ft in feet.

\[
1 \text{ yd} = 3 \text{ ft} \\
15 \text{ yd} = 15 \times 3 \text{ ft} \\
= 45 \text{ ft} \\
15 \text{ yd} 4 \text{ ft} = 45 \text{ ft} + 4 \text{ ft}
\]

15 yd 4 ft = 49 ft

3. Write 134 ft in yards.

\[
134 \text{ ft} \\
132 \text{ ft} \\
2 \text{ ft}
\]

134 ft = 44 yd 2 ft
4. Write 2 ft 8 in. in inches.

\[
\begin{align*}
1 \text{ ft} &= 12 \text{ in.} \\
2 \text{ ft} &= 2 \times 12 \text{ in.} \\
2 \text{ ft 8 in.} &= 24 + 8 \text{ in.} \\
&= 32 \text{ in.}
\end{align*}
\]

2 ft 8 in. = 32 in.

5. Find the value of 2 yd 4 ft + 3 yd 5 ft in yards.

\[
2 \text{ yd 4 ft} + 3 \text{ yd 5 ft} = 5 \text{ yd 9 ft}
\]

6. Find the value of 2 ft – 9 in. in inches.

\[
2 \text{ ft} = 2 \times 12 \text{ in.} \\
&= 24 \text{ in.}
\]

2 ft – 9 in. = 24 in. – 9 in. \\
= 15 in.
7. A water hose is 5 ft 8 in. long. A rope is 1 ft 11 in. longer than the water hose.
(a) Find the length of the rope.
(b) Find the total length of the water hose and the rope.

(a) \[5\text{ ft } 8\text{ in.} + 1\text{ ft } 11\text{ in.} = 7\text{ ft } 7\text{ in.}\]
The length of the rope is 7 ft 7 in.

(b) \[5\text{ ft } 8\text{ in.} + 7\text{ ft } 7\text{ in.} = 13\text{ ft } 3\text{ in.}\]
The total length of the water hose and the rope is 13 ft 3 in.
Miles

The mile (mi) is another unit of length. One mile is longer than 1 km. We measure long distances in miles.

1 mile = 5,280 ft

1. Write 1 mile in yd.

   1 mile = 5,280 ft
   = 1,760 yd

2. Find the distance between Joshua’s house and the school.

   The distance between Joshua’s house and the school is 9 mi.