

Dimensional Analysis Dominos

3.2 years
1

365.25 days
1 year

24 hours
1 day

60 minute
1 hour

60 seconds
1 minute

1000 milliseconds
1 second

72 Liters
1

1000 milliliters
1 liter

1 cubic centimeter
1 milliliter

1 day

1 year

1

24 hours

365.25 days

3.2 years

1 second

1 minute

1 hour

**1000
milliseconds**

60 seconds

60 minute

1 milliliter

1 liter

1

**1 cubic
centimeter**

**1000
milliliters**

72 Liters

$120 \frac{\textit{kilometers}}{\textit{hour}}$

1

1 hour

60 minutes

1 minute

60 seconds

1000 meters

1 kilometer

20 Newtons

1

$1 \frac{\textit{kg} \cdot \textit{m}}{\textit{s}^2}$

1 Newtons

1000 grams

1 kilogram

1 km

1000 m

60 seconds

1 minute

60 seconds	60 minutes	1
1 minute	1 hour	$120 \frac{\textit{kilometers}}{\textit{hour}}$
1 Newtons	1	1 kilometer
$1 \frac{\textit{kg} \cdot \textit{m}}{\textit{s}^2}$	20 Newtons	1000 meters
1 minute	1000 m	1 kilogram
60 seconds	1 km	1000 grams

60 seconds

1 minute

60 minutes

1 hour

60 minutes

1 hour

75 Watts

1

$$1 \frac{\text{kg} \cdot \text{m}^2}{\text{s}^3}$$

1 Watt

1 kilometer

1000 meters

1 kilometer

1000 meters

60 seconds

1 minute

60 seconds

1 minute

1 hour	1 hour	1 minute
60 minutes	60 minutes	60 seconds
1000 meters	1 Watt	1
1 kilometer	$1 \frac{kg \cdot m^2}{s^3}$	75 Watts
1 minute	1 minute	1000 meters
60 seconds	60 seconds	1 kilometer

60 seconds

1 minute

60 minutes

1 hour

60 minutes

1 hour

60 minutes

1 hour

50 kilometers

1

1000 meters

1 kilometer

**100
centimeters**

1 meter

1 inch

**2.54
centimeters**

1 foot

12 inches

1 hour	1 hour	1 minute
60 minutes	60 minutes	60 seconds
1 kilometer	1	1 hour
1000 meters	50 kilometers	60 minutes
12 inches	2.54 centimeters	1 meter
1 foot	1 inch	100 centimeters

Dimensional Analysis Dominos

Use the dimensional analysis dominos to complete each of the following problems using the factor label method of dimensional analysis. Show the “railroad track” for each situation as well as the answer.

1. How many milliseconds are in 3.2 years?
2. How many cubic centimeters (cc) of a liquid do you have if you have 72 Liters?
3. If you are driving at 120 kilometers/hour how fast are you driving in meters/second?
4. If you are pulling on an object with 20 Newtons of force, how many $\frac{g \cdot km}{hr^2}$ are you exerting?
5. If 75 Watts of power were generated, how many $\frac{kg \cdot km^2}{hr^3}$ were generated?
6. If you traveled 50 kilometers, how many feet did you move?