

# Converting between Metric and Imperial Units - Extension

Use the following while answering these questions. Give all your answers correct to 1 decimal place unless otherwise stated.

**1kg = 2.2lb**

**1 litre =  $1\frac{3}{4}$  pints**

**1 inch = 2.5cm**

**1m = 39.3 inches**

**1 gallon = 4.5 litres**

**1 foot = 30.5cm**

**1km =  $\frac{5}{8}$  mile**

1. A swiss roll recipe requires a baking tin which is 20cm wide, and 250ml of the mixture. How long should the tin be, in inches, and how much mixture is needed, in pints?

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2. The length of my garden is 18 feet. What is the length of the garden in metres?

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3. Jackie's mass is 163lb and her height is 5 foot 8 inches. Give her mass in kg and her height in metres.

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4. The distance from the bank to the train station is 2.7km. Give this distance in miles.

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5. The height of a tree is 7.34m. What is its height in feet?

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6. I use 15 litres of water when I take a shower. How much water is this in gallons?

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7. Valerie has a vase which has a mass of 1.3lb, a capacity of 2.2 pints and a height of 1 foot 3 inches. What is its mass in g, capacity in litres and height in cm?

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Converting between Metric and Imperial Units - **Extension**

8. I have two dogs, Eb and Flo. Eb has a mass of 36kg and Flo's mass is 58lb. Which dog has the greater mass? You must show all of your working.

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9. Two birds, Tweet and Ema are 9.2cm and 4.1 inches tall respectively. Give the height of Tweet to the height of Ema as a ratio, in the form 1:n.

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10. A group of three girls have heights 1.3m, 5 foot 2 inches and 142cm. Find the mean and range of the girl's heights. Give your answers in cm.

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11. A rectangle has a width of 6m and a length of 23 feet 2 inches. Find the length of the diagonal in cm.

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12. The mass of a parcel is 1.2kg correct to 1 decimal place. Find the upper and lower bounds of the mass, giving your answer in lb, without rounding.

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# Converting between Metric and Imperial Units - Extension - **Answers**

Use the following while answering these questions. Give all your answers correct to 1 decimal place unless otherwise stated.

$$1\text{kg} = 2.2\text{lb}$$

$$1\text{ litre} = 1\frac{3}{4}\text{ pints}$$

$$1\text{ inch} = 2.5\text{cm}$$

$$1\text{m} = 39.3\text{ inches}$$

$$1\text{ gallon} = 4.5\text{ litres}$$

$$1\text{ foot} = 30.5\text{cm}$$

$$1\text{km} = \frac{5}{8}\text{ mile}$$

1. A swiss roll recipe requires a baking tin which is 20cm wide, and 250ml of the mixture. How long should the tin be, in inches, and how much mixture is needed, in pints?

$$20\text{cm} = 8\text{ inches}$$

$$250\text{ml} = 0.4\text{ pints}$$

2. The length of my garden is 18 feet. What is the length of the garden in metres?

$$5.5\text{m}$$

3. Jackie's mass is 163lb and her height is 5 foot 8 inches. Give her mass in kg and her height in metres.

$$163\text{lb} = 74.1\text{kg}$$

$$5\text{ foot } 8\text{ inches} = 1.7\text{m}$$

4. The distance from the bank to the train station is 2.7km. Give this distance in miles.

$$1.7\text{ miles}$$

5. The height of a tree is 7.34m. What is its height in feet?

$$24.1\text{ feet}$$

6. I use 15 litres of water when I take a shower. How much water is this in gallons?

$$3.3\text{ gallons}$$

7. Valerie has a vase which has a mass of 1.3lb, a capacity of 2.2 pints and a height of 1 foot 3 inches. What is its mass in g, capacity in litres and height in cm?

$$1.3\text{lb} = 590.9\text{g}$$

$$2.2\text{ pints} = 1.3\text{ litres}$$

$$1\text{ foot } 3\text{ inches} = 38\text{cm}$$

8. I have two dogs, Eb and Flo. Eb has a mass of 36kg and Flo's mass is 58lb. Which dog has the greater mass? You must show all of your working.

**Either Eb weighs 79.2lb or Flo weighs 26.4kg; Eb has the greater mass.**

9. Two birds, Tweet and Ema are 9.2cm and 4.1 inches tall respectively. Give the height of Tweet to the height of Ema as a ratio, in the form 1:n.

$$\mathbf{9.2\text{cm}:10.25\text{cm} = 1:1.1 \text{ or } 3.68 \text{ inches}:4.1\text{inches} = 1:1.1}$$

10. A group of three girls have heights 1.3m, 5 foot 2 inches and 142cm. Find the mean and range of the girl's heights. Give your answers in cm.

$$\frac{\mathbf{130 + 157.5 + 142}}{\mathbf{3}} = \mathbf{143.2\text{cm}}$$

$$\mathbf{Range = 27.5\text{cm}}$$

11. A rectangle has a width of 6m and a length of 23 feet 2 inches. Find the length of the diagonal in cm.

$$\sqrt{\mathbf{706.5^2 + 600^2}} = \mathbf{926.9\text{cm}}$$

12. The mass of a parcel is 1.2kg correct to 1 decimal place. Find the upper and lower bounds of the mass, giving your answer in lb, without rounding.

$$\mathbf{Bounds \text{ in kg are } 1.15\text{kg} \text{ and } 1.25\text{kg}}$$

$$\mathbf{Bounds \text{ are } 2.53\text{lb} \text{ and } 2.75\text{lb}}$$

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**1 inch = 2.5cm**

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**1 gallon = 4.5 litres**

**1 foot = 30.5cm**

**1km =  $\frac{5}{8}$  mile**

1. Give 7 inches in cm.

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2. Give 5kg in lb.

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3. Give 10 foot in m.

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4. Give 8.2lb in kg.

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5. Give 7.3 litres in gallons.

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6. Give 5 pints in litres.

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7. Give 15m in inches.

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8. Give 4 foot 3 inches in m.

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9. Give 29cm in inches.

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10. Give 12 gallons in litres.

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11. Give 3m in inches.

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12. Give 4.8lb in g, giving your answer correct to the nearest hundred.

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# Converting between Metric and Imperial Units **Answers**

Use the following while answering these questions. Give all your answers correct to 1 decimal place unless otherwise stated.

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$$1\text{ gallon} = 4.5\text{ litres}$$

$$1\text{ foot} = 30.5\text{ cm}$$

$$1\text{ km} = \frac{5}{8}\text{ mile}$$

1. Give 7 inches in cm.

**17.5cm**

2. Give 5kg in lb.

**11lb**

3. Give 10 foot in m.

**3.1m**

4. Give 8.2lb in kg.

**3.7kg**

5. Give 7.3 litres in gallons.

**1.6 gallons**

6. Give 5 pints in litres.

**2.9 litres**

7. Give 15m in inches.

**589.5 inches**

8. Give 4 foot 3 inches in m.

**1.3m**

9. Give 29cm in inches.

**11.6 inches**

10. Give 12 gallons in litres.

**54 litres**

11. Give 3m in inches.

**117.9 inches**

12. Give 4.8lb in g, giving your answer correct to the nearest hundred.

**2200g**