

Solutions to Section C: Measurement

1. Use the formula $F = \frac{9}{5}C + 32$ to convert temperatures 34° Celsius to its corresponding temperature on the Fahrenheit scale.

Answer: $F = \frac{9}{5} (34) + 32 = 9(6 + \frac{4}{5}) + 32 = 54 + 32 + \frac{36}{5} = 54 + 32 + 7.2 = 93.2^\circ$

So, 34° C is the same as 93.2° F

2. List the following in decreasing order: 1 m^2 , 9999 cm^2 , 10^7 mm^2

Decreasing order: 10^7 mm^2 , 1 m^2 , 9999 cm^2

3. Complete each of the following.

(a) $500 \text{ cm}^2 = \underline{.05 \text{ m}^2}$

(b) $81 \text{ km} = \underline{81,000 \text{ m}}$

(c) $4738 \text{ g} = \underline{4.378 \text{ kg}}$

(d) $300 \text{ mL} = \underline{.3 \text{ L}}$

(e) $17 \text{ m} = \underline{1700 \text{ cm}}$

(f) $0.10222 \text{ kL} = \underline{102,220 \text{ mL}}$

(g) $0.027 \text{ L} = \underline{27 \text{ cm}^3}$

(h) $3 \times 10^6 \text{ m}^3 = \underline{.003 \text{ km}^3}$

(i) $3 \text{ miles} = \underline{15,840 \text{ ft}}$

(j) $2592 \text{ in}^2 = \underline{2 \text{ yd}^2}$

4. One edge of a cubic tank is 7 m long and the tank is filled with water;

(a) Find the volume of the tank in cubic meters. **343 m^3**

(b) Find the capacity of the tank in liters. **$343,000 \text{ L}$**

(c) Find the mass of the water in kilograms. **$343,000 \text{ kg}$** (technically at 4° C and atmospheric pressure)

5. Complete the following table converting metric measures.

	mm	cm	m	km
a	62000	6200	62	.062
b	360000	36000	360	.36
c	300000	30000	300	0.3
d	2300000	230000	2300	2.3