

Name KEY

Date _____

Due Date _____

Mark _____ / 28

Correct and Hand in Again by _____

Chemistry 11

Hand In Assignment # 1 - Unit Conversions

This Assignment will be marked and you are allowed to do one set of corrections.

Make the following conversions using the Unit Conversion method. Show all of your work and how you manipulate units. Include the correct units in your answer.

1. $3.5 \times 10^5 \text{ mm} = ? \text{ m}$ (2 marks)

$$3.5 \times 10^5 \text{ mm} \times \frac{10^{-3} \text{ m}}{1 \text{ mm}} = 3.5 \times 10^2 \text{ m}$$

Answer \checkmark $3.5 \times 10^2 \text{ m}$ (350 m)

2. $0.0028 \text{ L} = ? \mu\text{L}$ (2 marks)

$$2.8 \times 10^{-3} \text{ L} \times \frac{1 \mu\text{L}}{10^{-6} \text{ L}} = 2.8 \times 10^3 \mu\text{L}$$

Answer \checkmark $2.8 \times 10^3 \mu\text{L}$ (2800 μL)

3. $3.2 \text{ Ms} = ? \text{ s}$ (2 marks)

$$3.2 \times 10^0 \text{ Ms} \times \frac{10^6 \text{ s}}{1 \text{ Ms}} = 3.2 \times 10^6 \text{ s}$$

Answer \checkmark $3.2 \times 10^6 \text{ s}$

4. $0.0065 \text{ mm} = ? \mu\text{m}$ (4 marks)

$$6.5 \times 10^{-3} \text{ mm} \times \frac{10^{-3} \text{ m}}{1 \text{ mm}} \times \frac{1 \mu\text{m}}{10^{-6} \text{ m}} = 6.5 \times 10^0 \mu\text{m}$$

Answer \checkmark $6.5 \mu\text{m}$

5. 5 400 000 dg = ? Mg (4 marks)

$$5.4 \times 10^6 \text{ dg} \times \frac{10^{-1} \text{ g}}{1 \text{ dg}} \times \frac{1 \text{ Mg}}{10^6 \text{ g}} = 5.4 \times 10^{-1} \text{ Mg}$$

4

Answer $5.4 \times 10^{-1} \text{ Mg}$ (0.54 Mg)

6. 0.032 GHz = ? kHz (4 marks)

$$3.2 \times 10^{-2} \text{ GHz} \times \frac{10^9 \text{ Hz}}{1 \text{ GHz}} \times \frac{1 \text{ kHz}}{10^3 \text{ Hz}} = 3.2 \times 10^4 \text{ kHz}$$

4

Answer $3.2 \times 10^4 \text{ kHz}$

7. 0.025 mL = ? nL (4 marks)

$$2.5 \times 10^{-2} \text{ mL} \times \frac{10^{-3} \text{ L}}{1 \text{ mL}} \times \frac{1 \text{ nL}}{10^{-9} \text{ L}} = 2.5 \times 10^4 \text{ nL}$$

4

Answer $2.5 \times 10^4 \text{ nL}$

8. 0.056 g/s = ? g/min (2 marks)

$$0.056 \frac{\text{g}}{\text{s}} \times \frac{60 \text{ s}}{1 \text{ min}} = 3.36 \text{ g/min}$$

2

Answer 3.36 g/min

9. 345 µg/L = ? mg/mL (4 marks)

$$3.45 \times 10^2 \frac{\mu\text{g}}{\text{L}} \times \frac{10^{-6} \text{ g}}{1 \mu\text{g}} \times \frac{1 \text{ mg}}{10^{-3} \text{ g}} \times \frac{10^{-3} \text{ L}}{1 \text{ mL}} = 3.45 \times 10^{-4} \frac{\text{mg}}{\text{mL}}$$

4

Answer $3.45 \times 10^{-4} \text{ mg/mL}$

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