HW Assignments:

- OWL HW

✓ Sample problem set due: 3rd September at 11:55 PM

✓ Chapter 1 HW due: 6th September at 11:55 PM

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(Q.4)

Which is the longest distance?

- 4.34×10^5 mm
- 5200 cm
- 3.1×10^{-4} km
- 2.1 m

Answer: 4.34×10^5 mm

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Practice Questions

The mass density of water at 25°C is 0.997 g per mL. A child's swimming pool holds 346 L of water at this temperature. What mass of water is in the pool?

Because 1 L = 1000 mL, 1000 mL/1 L provides a conversion from L to mL.

The given density is 0.997 g/1 mL, and this provides the connection between volume and mass:

$$346\ \text{L} \times \frac{1000\ \text{mL}}{1\ \text{L}} \times \frac{0.997\ \text{g}}{1\ \text{mL}} = 3.45 \times 10^5\ \text{g}$$

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Compound Unit Problem

(Q) A motorcycle is traveling at 105 km/h. What is the speed in meters per second?

1. Convert kilometers to meters.
2. Convert hours to minutes, then minutes to seconds.

$$\frac{105\ \text{km}}{\text{h}} \times \frac{1000\ \text{m}}{1\ \text{km}} \times \frac{1\ \text{h}}{60\ \text{min}} \times \frac{1\ \text{min}}{60\ \text{s}} = 29.2\ \text{m/s}$$

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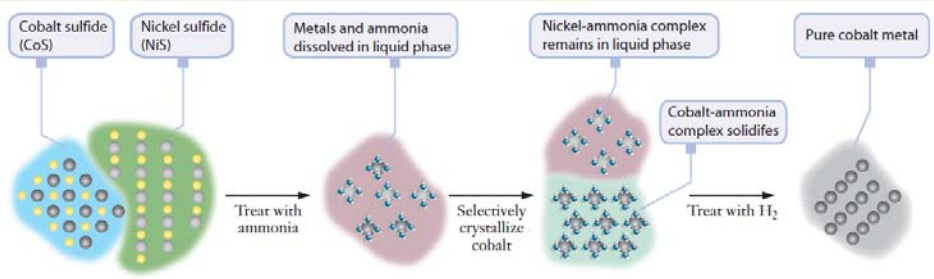
Refining of cobalt



- Adjusting the conditions of the solution causes the cobalt-ammonia complex to solidify, leaving the nickel in solution
- Finally, the solid cobalt complex is treated with hydrogen to produce cobalt metal
- One component of the mixture is selectively dissolved or crystallized are common tools of Chemistry

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