1. Sample 1

Convert the wind speed of 10 knots (kt) to m s^{-1}.

What's To Be Found

Given that V = 10 kt, convert to SI units, m s^{-1}.

What Is Given?

1 kt = 0.51 m s^{-1}.

Conversion Multiplications

$$V = 10 \text{ kt}\left(\frac{0.51 \text{ m s}^{-1}}{1 \text{ kt}}\right) = 5.1 \text{ m s}^{-1}$$

Check

kt cancels with kt leaving the correct unit as an answer. In addition, we learned in class that to convert meters per second to mph (roughly) multiply by 2.

2. Sample 2

Convert 10°C to Fahrenheit.

What's To Be Found

Sometimes the answer requires you simply think through simple substitutions before you attempt to answer the question, which in this case is a conversion of Centigrade to Fahrenheit using a simple formula.

What Is Given?

T_{oF} = (9°F/5°C) T °C + 32°F

Conversion Multiplications

$$T_{oF} = \left(\frac{9_{oF}}{5_{oC}} \bullet \ 10_{oC}\right) + 32_{oF} = \ 18^0F \ + 32^0F = 50^0F$$

Check

The $_{oC}$ cancel out leaving the correct unit as an answer as ^{o}F . In addition, we learned in class that a good mnemonic for conceptual understanding of the two scales is that $10\ ^{o}C = 50\ ^{o}F$. So you've just proved that.