Answer Key

Velocity Quiz

1. Cindy's mouse Stuart can run at a velocity of 0.7 m/s North. How far can Stuart run in 8 seconds? Express your final answer in meters. Show all of your work for full credit. HS.P.D.07

What do you know?	$V = .7 m/s$ $X_1 = 0 m$ $X_2 = ?$ $t = 8 sec$
What formula?	$V = \dfrac{X_2 - X_1}{t}$
Substitute in values	$.7 = \dfrac{X_2 - 0}{8}$
Calculations (show your work here)	$.7 = \dfrac{X_2}{8}$ $(8)(.7) = X_2$
Answer (with units!)	5.6 m

2. From Question 1, express your answer in miles. Show all of your work for full credit. HS.P.G.67

$$\frac{5.6 \; m}{} \left| \frac{6.214 \times 10^{-4} \; miles}{1 \; m} \right. = \boxed{3.48 \times 10^{-3} \; miles}$$

3. A car travels 50 km South on a straight road for 10 hours. What is its velocity? Express your answer in km/hr. Show all of your work for full credit. HS.P.D.07

What do you know?	$V = ?$ $x_1 = 0\ km$ $x_2 = 50\ km$ $t = 10\ hr$
What formula?	$V = \dfrac{x_2 - x_1}{t}$
Substitute in values	$V = \dfrac{50 - 0}{10}$
Calculations (show your work here)	$V = \dfrac{50}{10}$ $U = 5\ km/h$
Answer (with units!)	$5\ km/h$

4. From Question 3, express your answer in m/s. Show all of your work for full credit. HS.P.G.67

$$\frac{5\ (km/h)}{} \left| \frac{1\ m/s}{3.6\ (km/h)} \right. = \frac{5}{3.6} = \boxed{1.389\ m/s}$$