

## CALCULATING VELOCITY AND MILES PER HOUR

NAME \_\_\_\_\_

SCORE \_\_\_\_\_

(NOTE: This activity will enable you to compute the miles per hour of the model racer)

### A. Formulas

1. To calculate mph, the velocity of the object must be known. The formula for velocity measurement is:

$$\text{Velocity} = \frac{\text{distance in same direction}}{\text{time}} \quad \text{or} \quad V = \frac{d}{t}$$

2. Mph is the distance which an object would travel in one hour.

$$\text{Mph} = \frac{V \times 60 \text{ sec} \times 60 \text{ min}}{5280 \text{ ft}}$$

Using the velocity of the object, its speed in ft/s, m/s, ft/min, or mph can be calculated.

Example: If an object moved 60 ft in 1 second, how many mph was it going?

To find the answer:

(1) find the velocity.

$$v = \frac{\text{distance}}{\text{time}}$$

$$V = 60 \text{ ft} \div 1 \text{ sec} = 60 \text{ ft/sec.}$$

(2) Now use the formula to find mph.

$$\text{Mph} = \frac{V \times 60 \text{ sec} \times 60 \text{ min}}{5280 \text{ ft}}$$

$$\text{Mph} = \frac{60 \text{ ft/sec} \times 60 \text{ sec} \times 60 \text{ min}}{5280 \text{ ft}} = 40.9 \text{ mph}$$

(3) the answer is 40.9 mph.