Name - _ _ _ _ _ _ _ _ Start time - _ _ : _ _ End time - _ _ : _ _

Solve the following.

1. The formula for working out the average speed (s, in metres per second) of a moving object is s = where d is the distance travelled (in metres) and t is the time taken (in seconds). Find the speed (in metres per second, to 2 d.p.) of each of the following:

   a) a runner who travels 800 metres in 110 seconds
   b) a cheetah that travels 400 metres in 14 seconds
   c) a car that travels 1 km in 1 minute
   d) a plane that travels 640 km in 1 hour

2. Use the formula $c = \frac{5}{9}(f - 32)$ to convert the following temperatures in degrees Fahrenheit (f) to degrees Celsius (c).

   a) 212 °F
   b) 68 °F
   c) -40 °F
   d) 98.6 °F

3. The sum (S) of the numbers 1 + 2 + 3 + ... + n is given by the formula $S = \frac{1}{2}n(n + 1)$ Work out the sum for each of the following.

   a) 1 + 2 + 3 + ... + 10
   b) 1+ 2 + 3+ ... + 100
   c) 1 + 2 + 3 + ... + 1000

4. Theo decides to play a game of crazy golf. The cost of hiring crazy golf equipment, £C, is a fixed price of £3 plus 8p for every minute of use. For g minutes of crazy golf this can be written as the formula C = 0.08g + 3. Theo plays for 2 hours and 30 minutes. How much will hiring the equipment cost him?