

Big Strides!

Student Name:

Data Analysis

Research has shown that a person's height is directly related to the length of their step (this is called their stride). They have calculated that your stride length (cm) is approximately 43% of your total height (cm).

1. To calculate your stride length, use a ruler to measure your height (cm) and follow the formula below:

$$\text{Stride length (cm)} = \text{Height (cm)} \times 0.43$$

$$\text{Stride length (cm)} = \quad \times 0.43$$

$$\text{Stride length (cm)} =$$

2. If every step you took equaled your calculated stride length then approximately how far would you travel if you took 75 steps?

$$\text{Total distance (cm)} = \text{Stride length (cm)} \times 75$$

$$\text{Total distance (cm)} = \quad \times 75$$

$$\text{Total distance (cm)} =$$

3. A better unit of measurement for this distance is metres (m) and kilometres (km). Convert your total distance (cm) to both metres (m) and kilometres (km) below.

$$\text{Total distance (m)} = \text{Total distance (cm)} \div 100$$

$$\text{Total distance (m)} = \quad \div 100$$

$$\text{Total distance (m)} =$$

$$\text{Total distance (km)} = \text{Total distance (m)} \div 100$$

$$\text{Total distance (km)} = \quad \div 100$$

$$\text{Total distance (km)} =$$

4. Do you believe centimetres, meters or kilometres is the best unit to display distance travelled when taking 75 steps? Why?

Further Analysis

According to census data, the average height of a Grade 5/6 student is 147.6cm. The AFL has calculated that the average height of a male player is 185cm.

1. Calculate the stride length (cm) of an average Grade 5/6 student? Round to two decimal places.

$$\text{Stride length (cm)} = \text{Height (cm)} \times 0.43$$

$$\text{Stride length (cm)} = \quad \times 0.43$$

$$\text{Stride length (cm)} =$$

2. Calculate the stride length (cm) of an average AFL player? Round to two decimal places.

$$\text{Stride length (cm)} = \text{Height (cm)} \times 0.43$$

$$\text{Stride length (cm)} = \quad \times 0.43$$

$$\text{Stride length (cm)} =$$

3. Create a column graph comparing the stride length (cm) of an average Grade 5/6 student, average AFL player and yourself.



Extension

How many steps would it take the average Grade 5/6 student to cover 14.5km? This is the average distance Patrick Dangerfield covers in an AFL match.

