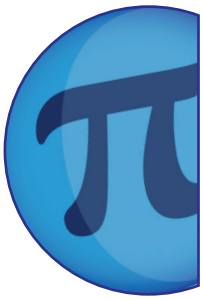
Perspective: Dazzle Camouflage

NAME: .....

CLASS: .....

DATE: .....



Basic

1) Suzie is planning to go on a walk. On her map the distance of the walk measures 18.3cm. If the scale of her map is 1:25,000, calculate the distance Suzie will walk.

2) On an architect's plan the height of a lighthouse measures 8.25cm. If the scale of the plan is 1:500, find the real height of the lighthouse in metres.

3) Change the following times to decimals:

a) 4 hours 12 minutes

b) 3 hours 18 minutes

4) A boat sails at an average speed of 36mph. How far will it have covered in 15 minutes?

5) A bus travels 48km in 36 minutes. Calculate its speed in km/hr.

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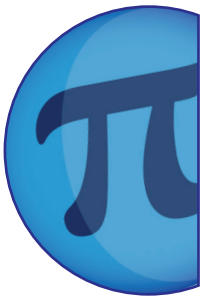

Core

1) The distance from Killhead to Falknock is 10.7cm on a map which has a scale of 1: 20,000. Calculate the actual distance between the two towns.

2) Andrew walked for half an hour and covered a distance of 2700m. Calculate Andrew's speed in:

a) metres per hour b) metres per minute

3) Sara drove her car at an average speed of 42km/hr. Her trip took 2.5 hours. How far had Sara travelled?

4) How long would it take a motorcyclist to travel 480km if he was travelling at a speed of 120km/hr?

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Core

5) How long will it take to travel 100km on a train if it travels at 80km/hr?

6) Change these speeds from m/sec to km/hr:

a) 8m/sec

b) 15m/sec

c) 200m/sec

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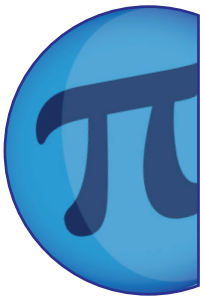

Advanced

1) On a plan, a building 40m long is represented by a line 8cm long

a) Write down the scale of the map as a ratio.

b) The width of the building is 27.5m. What length will this be on the map?

2) A hot air balloon flies over a triangular 80km course. It takes the balloon 39 minutes to cover the course. Calculate the balloon's average speed (correct to one decimal place).

3) If $u = \begin{bmatrix} 6 \\ -2 \\ 3 \end{bmatrix}$ and $v = \begin{bmatrix} -2 \\ 3 \\ 1 \end{bmatrix}$ find:

a) u + v

b) u – v

c) 2u

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ANSWERS

Basic

1) 4.575km

2) 41.25m

3) a) 4.2 hours **b) 3.3 hours**

4) 9 miles

5) 80km/hr

Core

1) 2.14km

2) a) 5400m per hour **b) 90m per minute**

3) 105km

4) 4 hours

5) 1 hour 15 minutes

6) a) 28.8km/hr **b) 54km/hr** **c) 720km/hr**

Advanced

1) a) 1:500 **b) 5.5cm**

2) 123.1km/hr

3) a) $\begin{bmatrix} 4 \\ 1 \\ 4 \end{bmatrix}$ **b)** $\begin{bmatrix} 8 \\ -5 \\ 2 \end{bmatrix}$ **c)** $\begin{bmatrix} 12 \\ -4 \\ 6 \end{bmatrix}$