## Speed Skating Events Answers

## Instructions:

You are given two values out of speed, distance or time from several different speed skating events. Calculate the missing values. Give the time and speed to 1 decimal place and the distance to the nearest 100 m .

## Men's Events Results

| Name | Country | Distance $\mathbf{( m )}$ | Time | Average Speed (m/s) |
| :--- | :--- | :--- | :--- | :--- |
| Michel | Netherlands | 500 m | 34.7 seconds | $\mathbf{1 4 . 4}$ |
| Jan | Netherlands | 500 m | $\mathbf{3 5 . 2}$ seconds | 14.2 |
| Zbigniew | Poland | $\mathbf{1 5 0 0 m}$ | 105 seconds | 14.3 |
| Sven | Netherlands | 5000 m | 6 minutes 10.8 seconds <br> $=\mathbf{3 7 0 . 8}$ seconds | $\mathbf{1 3 . 5}$ |
| Jorrit | Netherlands | $\mathbf{1 0 0 0 0 m}$ | 12 minutes 44.5 seconds <br> $=\mathbf{7 6 4 . 5}$ seconds | 13.1 |

## Women's Events Results

| Name | Country | Distance (km) | Time | Average Speed (m/s) |
| :--- | :--- | :--- | :--- | :--- |
| Martina | Czech Republic | $3=\mathbf{3 0 0 0 m}$ | 4 minutes 2.0 seconds <br> $=\mathbf{2 4 2}$ seconds | $\mathbf{1 2 . 4}$ |
| Olga | Russia | $3=\mathbf{3 0 0 0 m}$ | $\mathbf{2 4 3 . 9}$ seconds | 12.3 |
| Sang | Korea | $\mathbf{0 . 5}=\mathbf{5 0 0 m}$ | 35.45 seconds | 14.1 |
| Ireen | Netherlands | $5=\mathbf{5 0 0 0 m}$ | $\mathbf{4 1 3 . 2}$ seconds | 12.1 |
| Hong | China | $\mathbf{1 = 1 0 0 0 m}$ | 1 minute 14.1 seconds <br> $=\mathbf{7 4 . 1}$ seconds | 13.5 |

## Extension:

The world record time for the 500 m in 1994 was 35.76 seconds. Which competitors achieved a greater average speed in their event in the table?

This is an average speed of $500 \div 35.76=14.0 \mathrm{~m} / \mathrm{s}$ (to $3 \mathrm{~s} . \mathrm{f}$.).
The competitors who beat this average speed were Michel, Jan, Zbigniew and Sang.

What is the percentage improvement in time from the world record holder in 1994 to the fastest competitor in the table?

The fastest competitor in the table was Michel who completed the 500 m in 34.7 seconds. To calculate the percentage improvement, we complete the following calculations:
35.76 - $34.7=1.06$
$\frac{1.06}{35.76}=0.0296=2.96 \%$ (to 3s.f.)

## Speed Skating Events

## Instructions:

You are given two values out of speed, distance or time from several different speed skating events. Calculate the missing values. Give the time and speed to 1 decimal place and the distance to the nearest 100 m .

## Men's Events Results

| Name | Country | Distance $(\mathrm{m})$ | Time | Average Speed $(\mathrm{m} / \mathrm{s})$ |
| :--- | :--- | :--- | :--- | :--- |
| Michel | Netherlands | 500 m | 34.7 seconds |  |
| Jan | Netherlands | 500 m |  | 14.2 |
| Zbigniew | Poland |  | 105 seconds | 14.3 |
| Sven | Netherlands | 5000 m | 6 minutes 10.8 seconds |  |
| Jorrit | Netherlands |  | 12 minutes 44.5 seconds | 13.1 |

Women's Events Results

| Name | Country | Distance (km) | Time | Average Speed (m/s) |
| :--- | :--- | :--- | :--- | :--- |
| Martina | Czech Republic | 3 | 4 minutes 2.0 seconds |  |
| Olga | Russia | 3 |  | 12.3 |
| Sang | Korea |  | 35.45 seconds | 14.1 |
| Ireen | Netherlands | 5 |  | 12.1 |
| Hong | China |  | 1 minute 14.1 seconds | 13.5 |

## Extension:

The world record time for the 500 m in 1994 was 35.76 seconds. Which competitors achieved a greater average speed in their event in the table?
$\qquad$
$\qquad$
$\qquad$

What is the percentage improvement in time from the world record holder in 1994 to the fastest competitor in the table?

