

# Reasoning and Problem Solving

## Step 4: Miles and Kilometres

All conversions in this resource are based on 5 miles  $\approx$  8 kilometres.

### National Curriculum Objectives:

Mathematics Year 6: (6M6) [Convert between miles and kilometres](#)

### Differentiation:

Questions 1, 4 and 7 (Problem Solving)

**Developing** Calculate a total distance and convert from miles into kilometres. All miles are multiples of 5.

**Expected** Calculate a total distance and convert from miles into kilometres. All miles use numbers with up to 1 decimal place (0.5).

**Greater Depth** Calculate a total distance and convert from miles into kilometres. All miles use numbers with up to 2 decimal places (0.25, 0.75).

Questions 2, 5 and 8 (Reasoning)

**Developing** Explain whether a statement is correct. All miles are multiples of 5 or kilometres are multiples of 8.

**Expected** Explain whether a statement is correct. Using numbers with up to 1 decimal place (0.5).

**Greater Depth** Explain whether a statement is correct. Using numbers with up to 2 decimal places (0.25, 0.75), and fractions and percentages of miles and kilometres.

Questions 3, 6 and 9 (Problem Solving)

**Developing** Calculate a missing distance. All miles are multiples of 5 or kilometres are multiples of 8.

**Expected** Calculate a missing distance. Using numbers with up to 1 decimal place (0.5).

**Greater Depth** Calculate a missing distance. Using numbers with up to 2 decimal places (0.25, 0.75), and fractions and percentages of miles and kilometres.

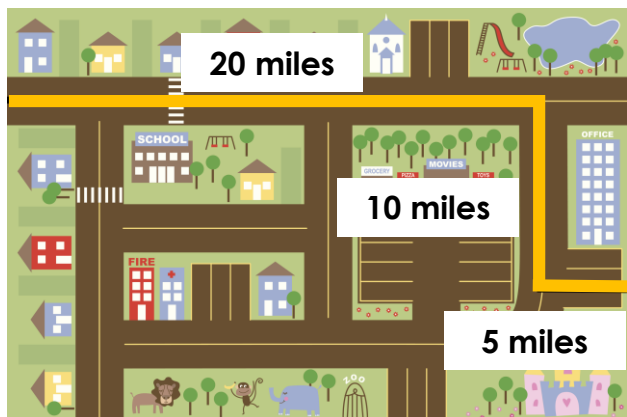
More [Year 6 Converting Units](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

# Miles and Kilometres

# Miles and Kilometres

1a. Sam has planned his walk on a map.



Approximately, how far is his walk in km?



PS

1b. Jess has planned her trip on a map.



Approximately, how far is her trip in km?



PS

2a. Lucy says,



64km is approximately equivalent to 35 miles.

Is she correct? Explain your answer.



R

2b. Zane says,



50 miles is approximately equivalent to 88km

Is he correct? Explain your answer.



R

3a. Iqra is planning a cycling trip.

She wants to arrive in Windemere, which is 45 miles from her starting point, by 6pm.

She has travelled 56km by 2pm.

Approximately, how many miles does she have left?



PS

3b. Freddie is planning his journey.

He wants to arrive at his destination, which is 20 miles from his starting point, by 4.30pm.

He has travelled 24km by 2.30pm.

Approximately, how many miles does he have left?

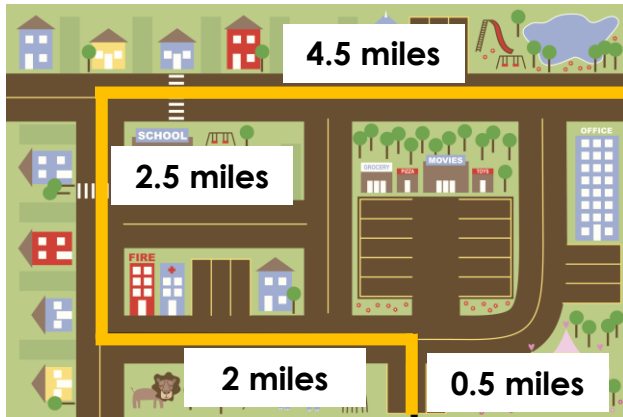


PS

## Miles and Kilometres

## Miles and Kilometres

4a. Eesa has planned his run on a map.



Approximately, how far is his run in km?



PS

4b. Isla has planned her cycle on a map.



Approximately, how far is her cycle in km?



PS

5a. Millie says,



7.2km is approximately equivalent to 4 miles.

Is she correct? Explain your answer.



R

5b. Jaiden says,



3 miles is equivalent to 4.8km.

Is he correct? Explain your answer.



R

6a. Ivy is planning a road trip.

She wants to arrive in Paris, which is 500 miles from her starting point, by day 4.

She has travelled 640km by day 3.

Approximately, how many miles does she have left?



PS

6b. Max is planning his walk home.

He wants to arrive at home, which is 4.5 miles from his starting point, by 4pm.

He has travelled 4.8km by 2.30pm.

Approximately, how many miles does he have left?

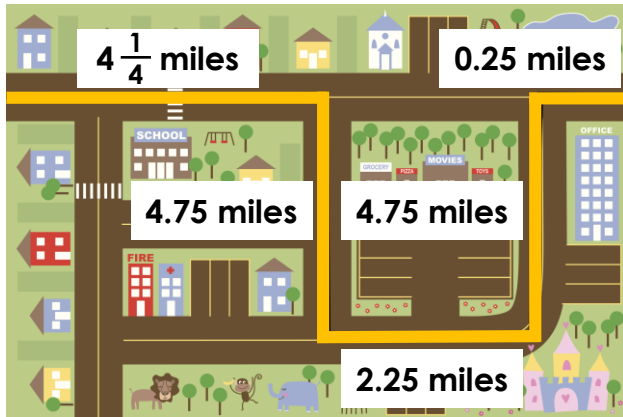


PS

## Miles and Kilometres

## Miles and Kilometres

7a. Pip has planned her route on a map.

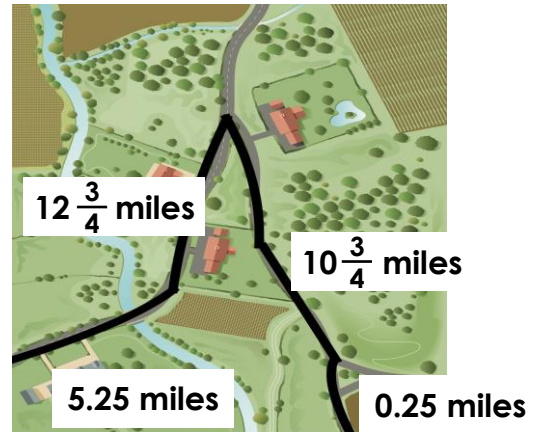


Approximately, how far is her route in km?



PS

7b. Jay has planned his route on a map.



Approximately, how far is his route in km?



PS

8a. Ruby says,



$\frac{1}{2}$  mile is equivalent to  $\frac{3}{5}$  of a km.

Is she correct? Explain your answer.



R

8b. Isaac says,



75% of 13.5 miles is equivalent to 20km.

Is he correct? Explain your answer.



R

9a. Poppy is planning a walk.

She wants to arrive at the campsite, which is 27.25 miles from her starting point, by 7pm.

She has travelled 22.5km by 4pm and a further  $9\frac{1}{10}$  km by 5pm.

Approximately, how many miles does she have left?



PS

9b. Felix is planning a road trip.

He wants to arrive in Barcelona, which is 441.95 miles from his starting point, by day 3.

He travelled  $159\frac{1}{5}$  km on day 1, and  $91\frac{3}{4}$  miles on day 2.

Approximately, how many miles does he have left?



PS

## Reasoning and Problem Solving Miles and Kilometres

### Developing

- 1a. **56km**  
2a. **Lucy is not correct because 64km is equivalent to 40 miles ( $64 \div 8 \times 5 = 40$ ).**  
3a. **10 miles**

### Expected

- 4a. **15.2km**  
5a. **Millie is not correct because 7.2km is equivalent to 4.5 miles ( $7.2 \div 8 \times 5 = 4.5$ ).**  
6a. **100 miles**

### Greater Depth

- 7a. **26km**  
8a. **Ruby is not correct because half a mile is equivalent to four fifths of a km or 0.8km ( $0.5 \div 5 \times 8 = 0.8$ ).**  
9a. **7.5 miles**

## Reasoning and Problem Solving Miles and Kilometres

### Developing

- 1b. **120km**  
2b. **Zane is not correct because 50 miles is equivalent to 80km ( $50 \div 5 \times 8 = 80$ ).**  
3b. **5 miles**

### Expected

- 4b. **29.6km**  
5b. **Jaiden is correct because 3 miles is equivalent to 4.8km ( $3 \div 5 \times 8 = 4.8$ ).**  
6b. **1.5 miles**

### Greater Depth

- 7b. **46.4km**  
8b. **Isaac is not correct because 75% of 13.5 miles is equivalent to 16.2km ( $10.125 \div 5 \times 8 = 16.2$ ).**  
8b. **250.7 miles**