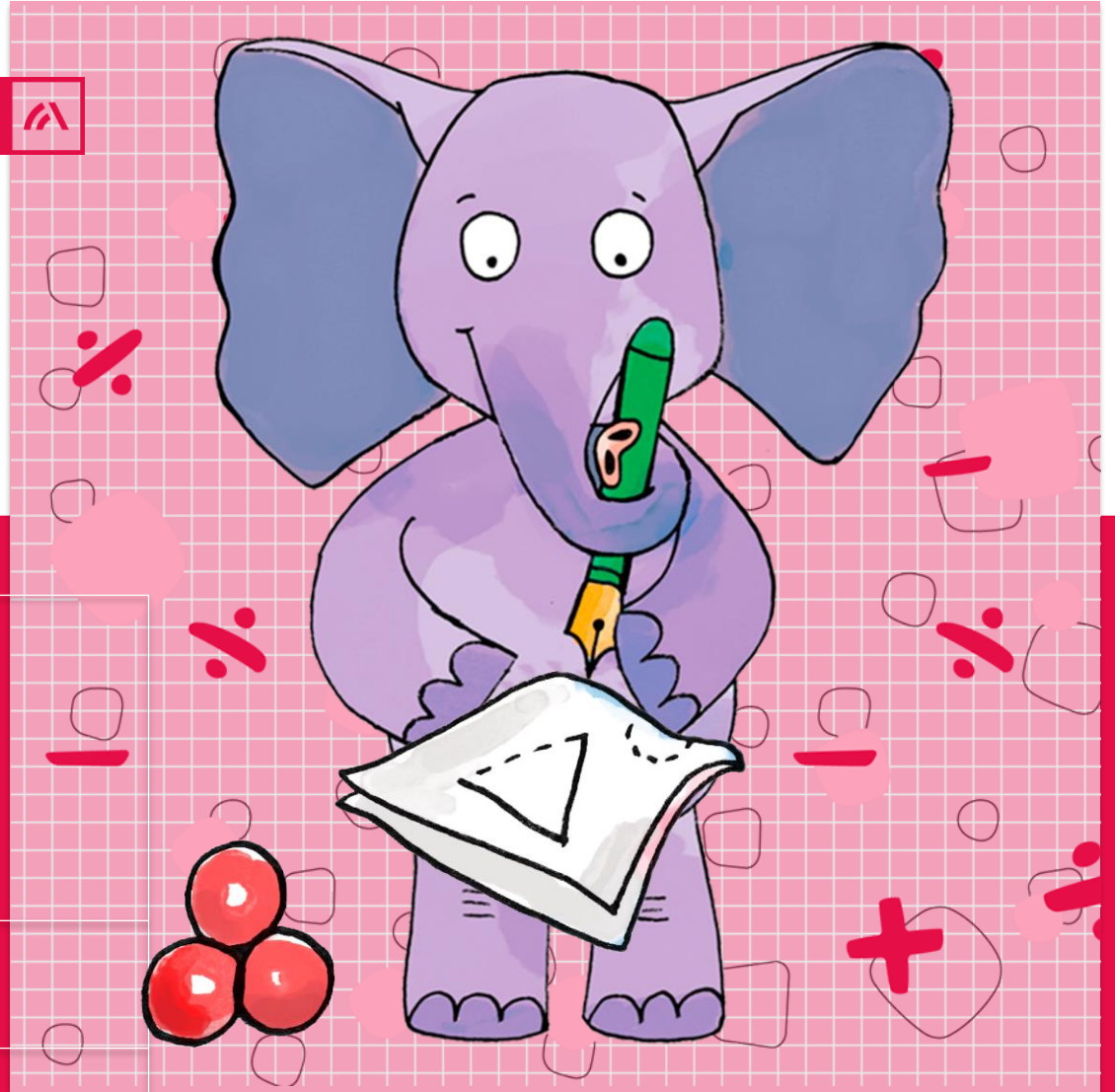


11.03.21

Big ?: Can I convert  
between miles and  
kilometers?



**Key learning:** To convert between miles and kilometres

length



breadth



height

distance

ruler



tape measure

metre (m)

kilometre (km)

miles



convert



equivalent




Star Words




# Estimating time with non-standard units

How many non-standard units of time can you think of?  
Give an example of how each measure could be used.



Heartbeats:  
It takes 16 heartbeats to pour  
a glass of water.



Songs:  
It takes 7 songs for me to walk  
to school.





# Converting between miles and kilometres

How do we measure distances that are further than we can see?



# Converting between miles and kilometres

Some countries measure long distances using kilometres.

1 kilometre =  metres

Other countries measure long distances using miles.

1 mile =  metres

Move the red boxes to reveal content.



# Converting between miles and kilometres

Some countries measure long distances using kilometres.

$$1 \text{ kilometre} = 1,000 \text{ metres}$$

Other countries measure long distances using miles.

$$1 \text{ mile} = 1,600 \text{ metres}$$

Move the red boxes  
to reveal content.





# Converting between miles and kilometres

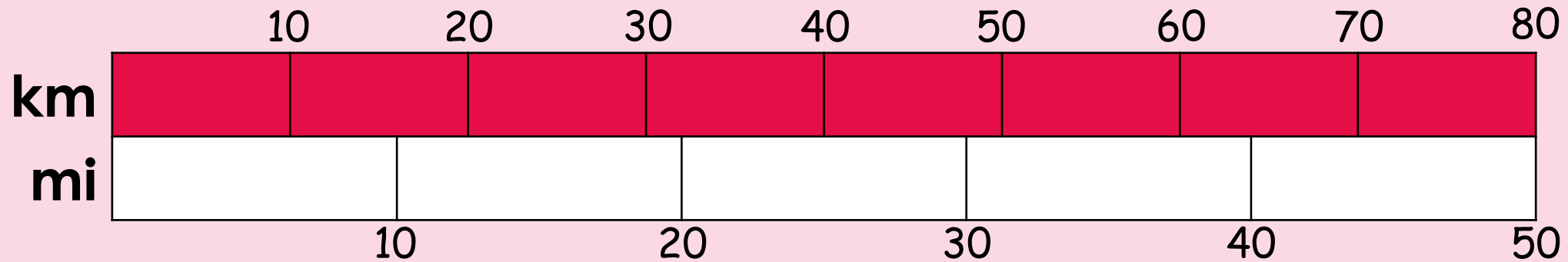
The Olympic planning committee needs to produce a plan of distances between all the events in the Games. How can they create a plan that people from all countries will be able to use?

- How can kilometres into be converted into miles?
- What representations might help you with the conversion?



# Converting between miles and kilometres

The distance from Kyoto to Osaka is 55 km.



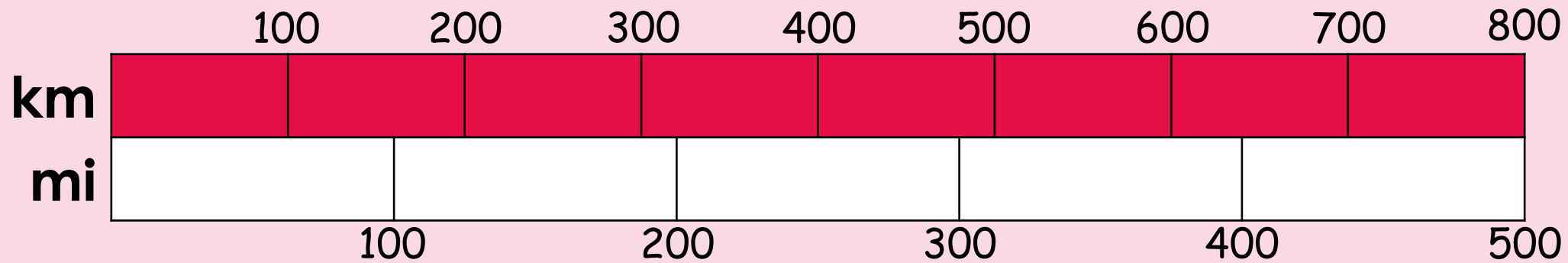
Can you use this representation to convert the distance into miles?





# Converting between miles and kilometres

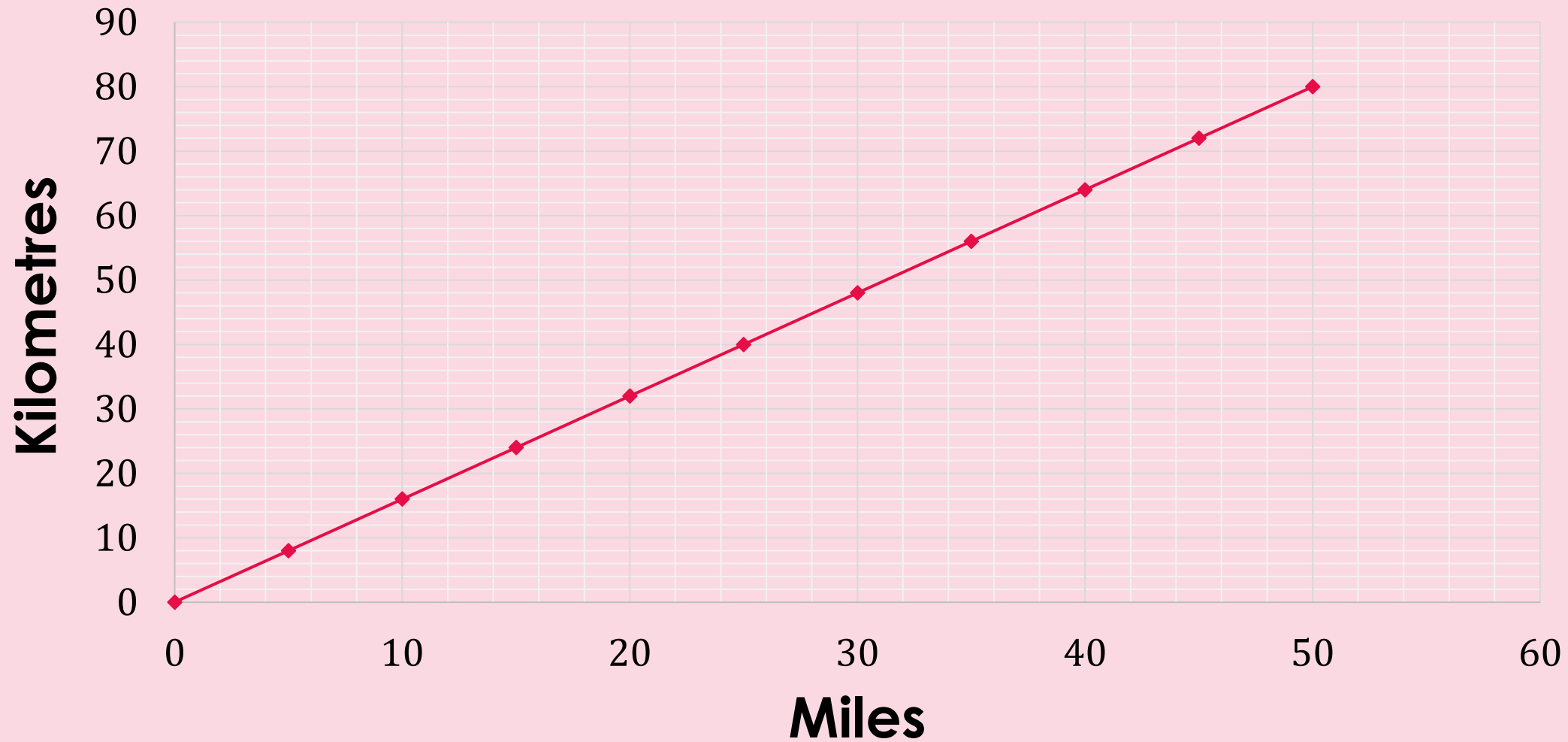
The distance from Tokyo to Nara is 230 mi.



Can you use this representation to convert the distance into kilometers?



# Converting miles and kilometres using a graph



Talk Task



# Converting miles and kilometres using a graph



Talk Task

Distance from Osaka		
City	Kilometres	Miles
Nara	28 km	
Kobe	36 km	
Kyoto		28 mi
Mount Kongo		9 mi





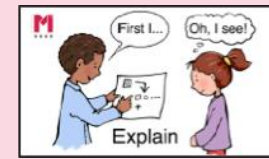
# Conversion with increased accuracy

5 miles  $\approx$  8 kilometres

<b>Miles</b>	0	5	10		20	25	30			45	50
<b>Kilometres</b>	0	8	16	24	32			56			



# Conversion with increased accuracy



Develop Learning

1	mile	≈	1.6	kilometres
5	miles	≈	8	kilometres
50	miles	≈		kilometres
100	miles	≈		kilometres
150	miles	≈		kilometres

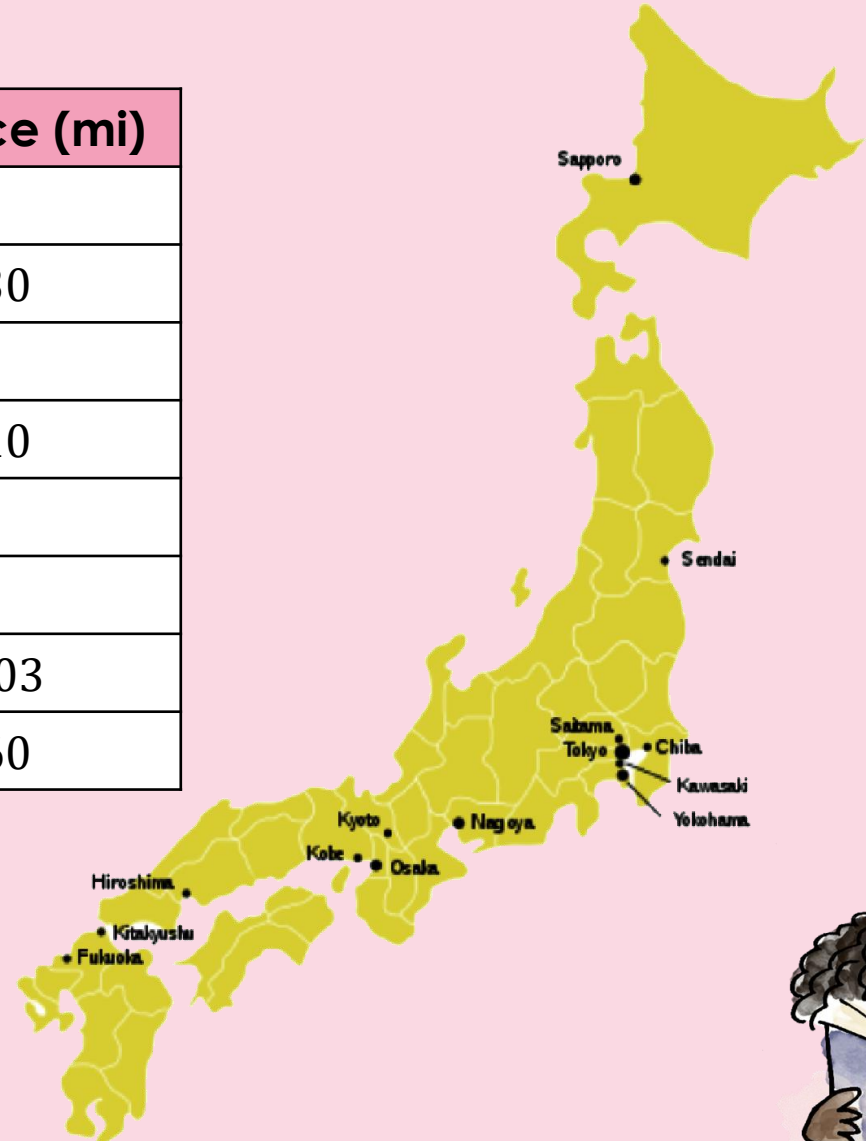
1.6	kilometres	≈	1	mile
8	kilometres	≈	5	miles
80	kilometres	≈		miles
160	kilometres	≈		miles
240	kilometres	≈		miles



**Key learning:** To convert between miles and kilometres

## Olympic host cities

City A	City B	Distance (km)	Distance (mi)
Nagoya	Osaka	165	
Sendai	Sapporo		430
Kyoto	Hiroshima	360	
Kitayushu	Kobe		310
Tokyo	Kawasaki	20	
Sapporo	Fukuoka	1,880	
Chiba	Nagoya		2303
Hiroshima	Sendai		660



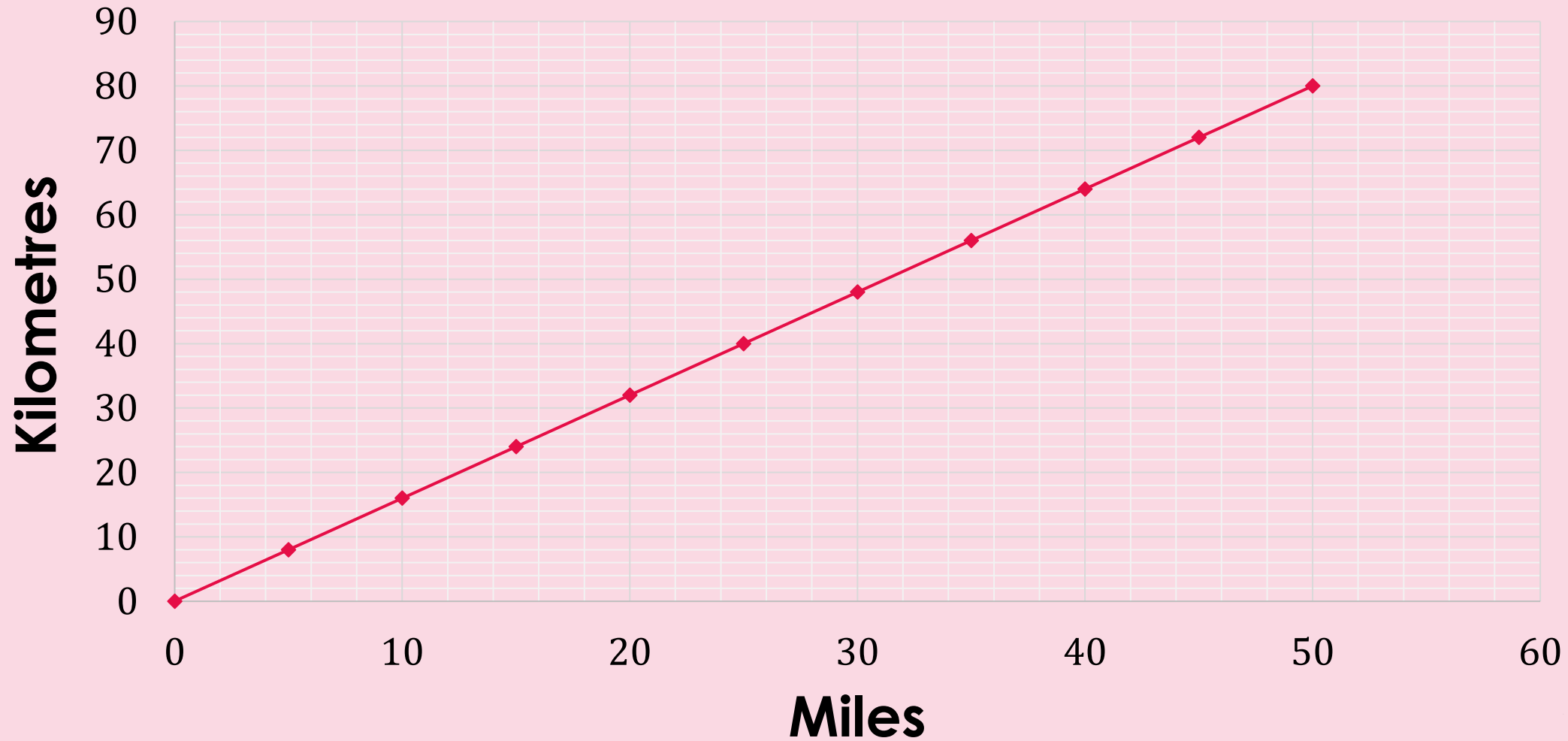
Independent Task





**Key learning:** To convert between miles and kilometres

## Olympic host cities



Independent Task



# Celebrating success and addressing misconceptions

20 miles  $\approx$  32 kilometres

- How many different strategies are there for converting miles to kilometres accurately?
- What is the most efficient strategy? Why is that?

