CONVERSION GRAPHS

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

To read a graph:

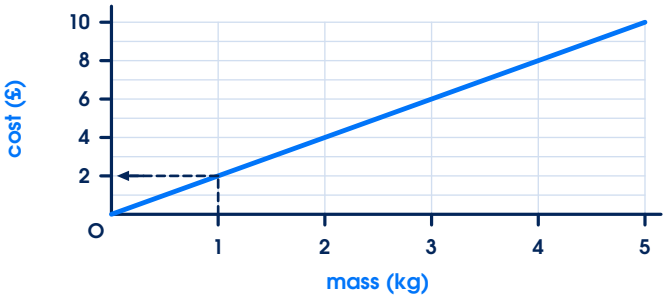
1. **go UP from the bottom axis to the line**
2. **go ACROSS to the side axis and read the number**

Check what each small square is worth before you start.

1 Write the missing numbers in the boxes.



2 This graph shows the cost of apples.



Example: 1 kg costs £2

a) 3 kg costs £ ☐

b) 5 kg costs £ ☐

c) £8 buys ☐ kg

d) £4 buys ☐ kg

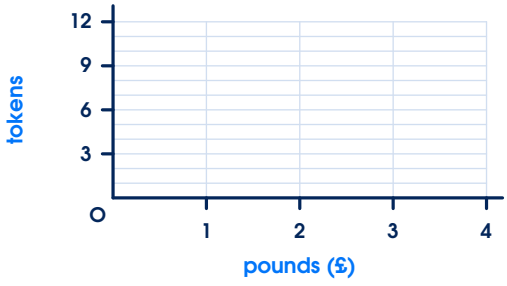
3 At a fair, £1 buys 3 tokens.

a) Complete the table.

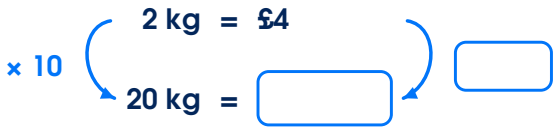
£	0	1	2	3	4
tokens	0	3	☐	☐	☐

b) Plot the points on the grid, **e.g. (0, 0) and (1, 3).**

c) Join them with a ruler.



4 2 kg of apples cost £4. 20 kg is off the graph, so multiply instead.



Do the same to both sides!

CONVERSION GRAPHS

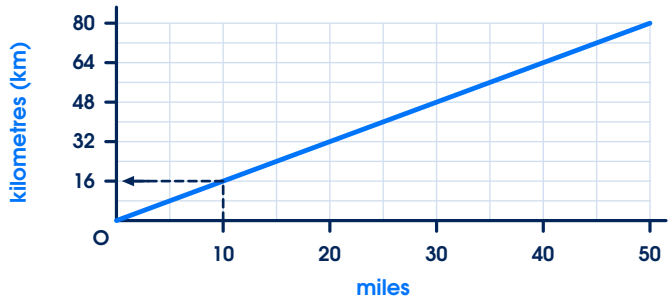
SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

A conversion graph changes one unit into another. Start on the axis of the unit you are given, go to the line, then read the other axis. Scale up for big values: 5 miles ≈ 8 km, so 50 miles ≈ 80 km.

1 Use the graph to convert between miles and kilometres.



Example: 10 miles ≈ 16 km

a) 25 miles ≈ ☐ km

b) 40 miles ≈ ☐ km

c) 48 km ≈ ☐ miles

d) 16 km ≈ ☐ miles

2 5 miles ≈ 8 km. Do the same to both sides.

a) 50 miles in km

	5 miles	≈	8 km
× 10	50 miles	≈	☐ km ☐

b) 100 miles in km

☐	5 miles	≈	8 km
	100 miles	≈	☐ km ☐

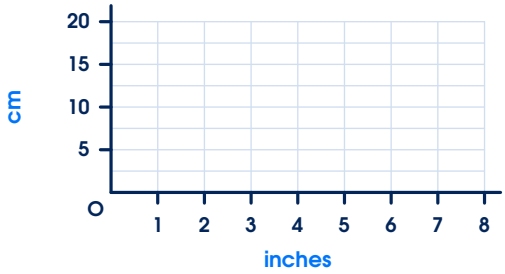
3 1 inch is about 2.5 cm.

a) Complete the table. Then draw a conversion graph.

INCHES	0	2	4	6	8
cm	0	5	☐	☐	☐

b) Plot the points and join them.

c) 3 inches ≈ ☐ cm



4 Ben uses the graph in Question 1. He says, "30 km is about 48 miles."

a) What mistake has Ben made? .....

b) 30 km is about ☐ miles

CONVERSION GRAPHS

CORE

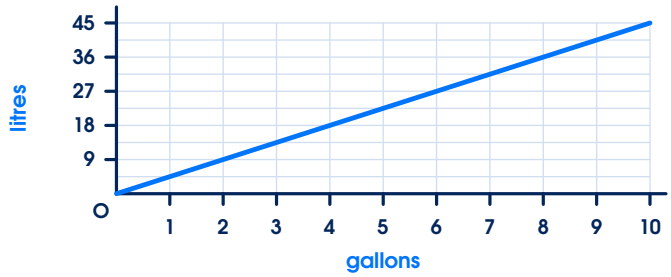
NAME _____ CLASS _____ DATE _____

KEY IDEA

Find what one small square is worth. Beyond the graph: read a value, then scale it up.

FLUENCY

1 The graph converts between gallons and litres.



a) 1 small square up = ☐ litres

b) 4 gallons = ☐ litres

c) 27 litres = ☐ gallons

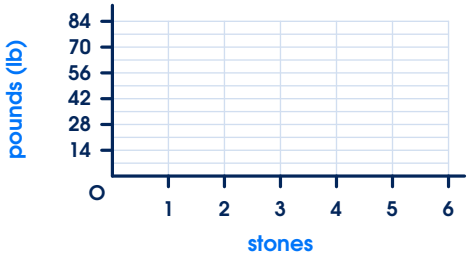
d) 7 gallons = ☐ litres

2 1 stone = 14 pounds (lb).

a) Complete the table.

STONES	0	1	2	3	5
pounds	0	14	☐	☐	☐

b) Draw the conversion graph.



c) 56 lb = ☐ stones **d)** 4.5 stones = ☐ lb

REASONING

3 Mo says, "I can't convert 30 gallons because the graph stops at 10." Read a smaller value from the graph, then scale it up.

a) 30 gallons into litres

☐ → **3 gallons** = ☐ litres → **30 gallons** = ☐ litres → ☐

b) 360 litres into gallons

☐ → **36 litres** = ☐ gal → **360 litres** = ☐ gal → ☐

4 Explain why a miles–kilometres conversion graph must pass through (0, 0). Then give a conversion graph that does not pass through (0, 0).

.....

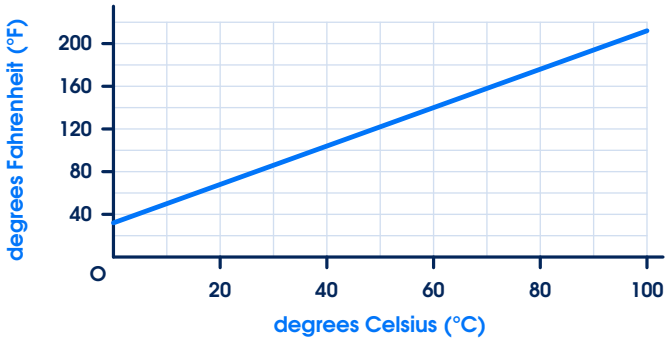
CONVERSION GRAPHS

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 The graph converts temperatures between °C and °F.



a) 50 °C ≈ ☐ °F

b) 176 °F ≈ ☐ °C

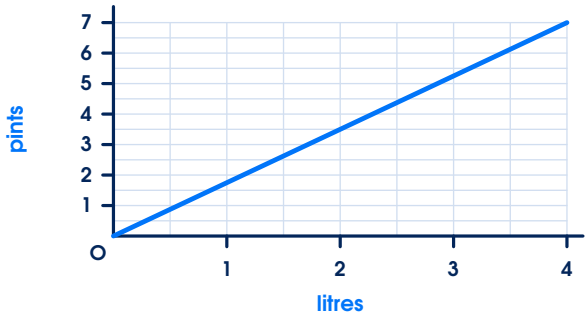
c) Ravi says, "20 °C is double 10 °C, so in °F it must be double too." Use the graph to explain why Ravi is wrong.

PROBLEM SOLVING

2 8 km ≈ 5 miles. Ana runs 26 miles. Ben runs 42 km.

Who ran further, and by how many miles? ☐

3 The graph converts between litres and pints.



Eve needs 2.8 pints of stock.
Stock is sold in 0.5 litre jars.

a) 2.8 pints ≈ ☐ litres

b) Jars needed: ☐

★ CHALLENGE FOR ALL

4 A race course uses furlongs. 8 furlongs = 1 mile, and 5 miles ≈ 8 km.

a) How many kilometres is a 12-furlong race? ☐

b) How many furlongs is 6.4 km? ☐

CONVERSION GRAPHS – ANSWERS

ANSWERS

BUILDING BLOCKS

1 6, 14 · 15, 35
2 a) £6 · b) £10 · c) 4 kg · d) 2 kg
3 a) 6, 9, 12 · b) and c) points (0, 0), (1, 3), (2, 6), (3, 9), (4, 12) joined by a straight line
4 × 10 on both sides: £40

SUPPORT

1 a) 40 km · b) 64 km · c) 30 miles · d) 10 miles
2 a) 80 km · b) × 20 on both sides: 160 km
3 a) 10, 15, 20 · b) straight line from (0, 0) to (8, 20) · c) 7.5 cm
4 a) He read from the wrong axis (he treated 30 as miles) · b) about 19 miles (18.75)

CORE

1 a) 4.5 litres · b) 18 · c) 6 · d) 31.5
2 a) 28, 42, 70 · b) straight line from (0, 0) to (6, 84) · c) 4 stones · d) 63 lb
3 a) 3 gallons = 13.5 litres, × 10 → 30 gallons = 135 litres · b) 36 litres = 8 gallons, × 10 → 360 litres = 80 gallons
4 0 miles is 0 km, so (0, 0) is on the line. E.g. °C to °F: 0 °C = 32 °F

GREATER DEPTH

1 a) about 122 °F · b) about 80 °C · c) The line does not start at (0, 0): 10 °C = 50 °F but 20 °C = 68 °F, not 100 °F
2 Ben, by 0.25 miles (42 km ≈ 26.25 miles)
3 a) about 1.6 litres · b) 1.6 ÷ 0.5 = 3.2, so 4 jars
4 a) 12 furlongs = 1.5 miles ≈ 2.4 km · b) 6.4 km ≈ 4 miles = 32 furlongs