

Sutton Maths Class

Year 5 - Week 17 Conversion

Graphs

Starter:

1 a $\frac{4 \times 3}{5 \times 3} + \frac{1 \times 5}{3 \times 5} = \frac{12+5}{15} = \frac{17}{15}$ or $1\frac{2}{15}$

b $\frac{5}{6} - \frac{1 \times 3}{2 \times 3} = \frac{5-3}{6} = \frac{2}{6} = \frac{1}{3}$

c** $4\frac{1}{3} - \frac{5}{4} = \frac{13 \times 4}{3 \times 4} - \frac{5 \times 3}{4 \times 3} = \frac{37}{12} = 3\frac{1}{12}$

2 a $\frac{7}{8} \times \frac{2}{3} = \frac{14}{24} = \frac{7}{12}$

b** $2\frac{3}{4} \times 1\frac{4}{5} = \frac{11}{4} \times \frac{9}{5} = \frac{99}{20} = 4\frac{19}{20}$

3 What is 0.6 as a percentage? 60%

4 What is $\frac{7}{10}$ as a decimal? 0.7

5 What is 15% as a fraction? $\frac{15}{100} = \frac{3}{20}$

6 $80 \times 0.2 = \frac{16}{1}$
 $80 \times 2 = 160$

7 $0.7 \times 0.01 = 0.007$
 $0.7 \times 0.01 = 0.007$

8 $5 \div 0.1 = 50$
Hint: First think about how many times does 0.1 'go into' 1?

9 Find $\frac{2}{3}$ of 60 feet. $20 \times 2 = 40$ feet

10 Increase 70 miles by 20%. 84
Hint: Find 20% and 'add it on' for increase.

11 What is 10cm as a fraction of 1m?
Hint: units need to be the same first, remove 1 litre = 1000ml. $\frac{10}{100} = \frac{1}{10}$

12 Calculate:

a $-10 - 10 = -20$

b $42 - 87 = -45$

c $-320 + 410 = 90$

13 Calculate:

a $-2 + 7 = 5$

b** $-8 - 2 + 5 = -5$

c** $10 - 4 - 2 + 9 = 7$

14 Calculate:

a $100 \div -2 = -50$

b $-10 \times -70 = 700$

c $-20 \div 4 = -5$

d** $8 \times -3 \div -4 = 6$
 $-24 \div -4$

15 What is the highest common factor of 18 and 24? 6

16 Write:

a 24 as a product of primes. $2 \times 2 \times 2 \times 3 = 2^3 \times 3 =$

b 210 as a product of primes. $2 \times 3 \times 5 \times 7$



17 What are the next two terms:

a 2, 4, 8, 16, 32, 64, 128

b 5, 7, 10, 14, 15, 21, 20

c 1, 1, 2, 3, 5, 8, 13, 21 (Fibonacci)

d 6, 3, 0, -3, -6, -9

18 $7 \times (8 - 3)^2 = 175$
 25

19 If $a = 2$, $b = 1$ and $c = 3$, calculate $c + (a^2 - 2b)$
 $3 + (4 - 2) = 5$

20 Simplify 21:105

21 Split 6000g in the ratio 7:5.

$7 : 35$
 $1 : 5$
 $500 \times 7 = 3500g$
 $500 \times 5 = 2500g$

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22 Karen and Katie share 70 marbles in the ratio of 7:3. How many more marbles than Katie does Karen have? $70 \div 10 = 7$
 $49 - 21 = 28$

23 Find the n^{th} term of:
a 9, 14, 19, 24 ... $5n + 4$
b**** 7, 4, 1, -2 ... $-3n + 10$

24 Find the first four terms of the sequence with n^{th} term:

a $6n$ 6, 12, 18, 24 ...
b $2n + 3$ 5, 7, 9, 11 ...
c*** $n^2 - 4$ -3, 0, 5, 12 ...

25 Write an equation to represent the following statement and solve your equation to find the number you first thought of:

"I think of a number, subtract 10 and multiply the answer by 3. The answer is 6."
 $3(x - 10) = 6$
 $3x - 30 = 6$
 $3x = 36$
 $x = 12$

(Please note $x - 10 \times 3$ is not correct
($x - 10$) \times 3 is correct)
26 Solve $\frac{n}{4} = 100$ $n = 400$

27 Solve $7n - 1 = 34$ $n = 5$

28 Solve:

a $5x - 2 = x + 10$ $4x = 12$
 $x = 3$
b**** $7x - 5 = \frac{1}{2}$ $7x = 5\frac{1}{2}$ $x = 5\frac{1}{2} \div 7$
 $= \frac{11}{2} \times \frac{1}{7} = \frac{11}{14}$
c**** $6(x + 4) = 36$ $6x + 24 = 36$
 $6x = 12$ $x = 2$
d**** $x - 10 = 7 + 5x$ $-17 = 4x$
 $x = -\frac{17}{4}$

Leave your answer as a simplified fraction where needed.

29 I roll two dice at the same time. What is the probability that I roll:

a) double 6 $\frac{1}{36}$
b) 2 and 3 $\frac{2}{36} = \frac{1}{18}$

30 A bag of equally sized marbles contains 5 blue, 6 yellow and 9 red marbles. What is the probability of choosing at random:

a) A blue marble $\frac{5}{20} = \frac{1}{4}$
b) A yellow or red marble $\frac{15}{20} = \frac{3}{4}$
c) A marble that is not red. $\frac{11}{20}$

31 Approximately what is 7 pints in litres? $1 \text{ pt} = 0.5 \text{ litres}$
 $7 \text{ pts} = 4.2 \text{ litres}$

32 Approximately how many miles is 40km?

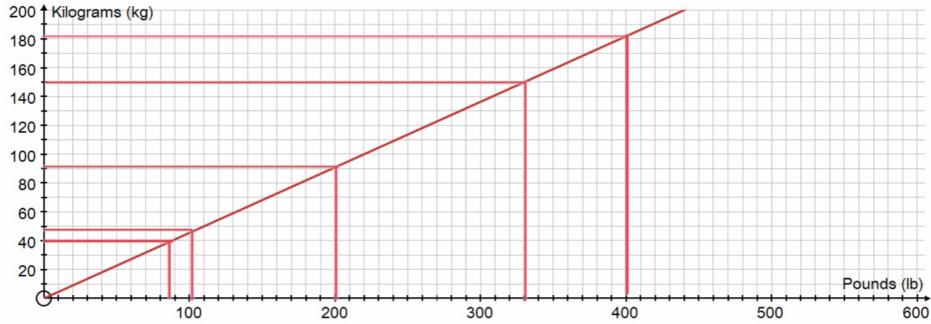
$5 \text{ miles} \approx 8 \text{ km}$
 $2 \text{ miles} \approx 40 \text{ km}$

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Questions:

1

Kilograms to Pounds Conversion Chart



Use the chart to estimate the following:

- 1 200 lb in kg *90kg*
 - 2 150kg in lb *330lb*
 - 3 100 lb in kg *45kg*
 - 4 40kg in lb *88lb*
 - 5 800 lb in kg *182kg x 2 = 364kg*
- } Approx.*

~~2~~

Speed Conversion Chart



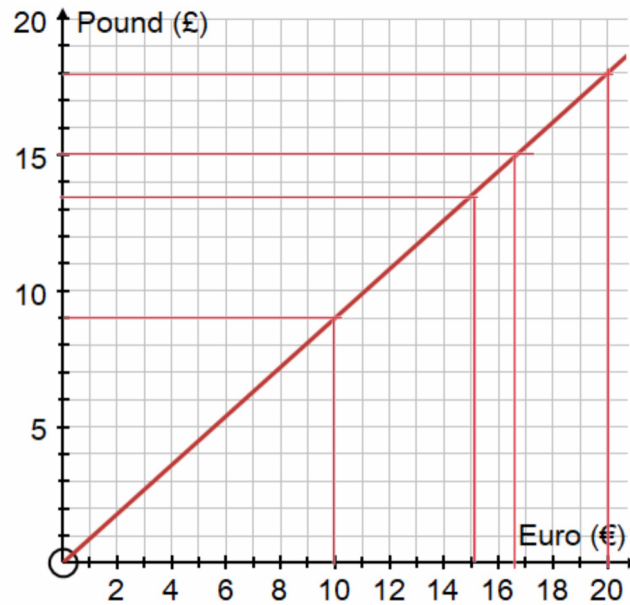
Use the chart to estimate the following:

- 1 80 mph in km/h
- 2 100 km/h in mph
- 3 100 mph in km/h
- 4 160 mph in km/h

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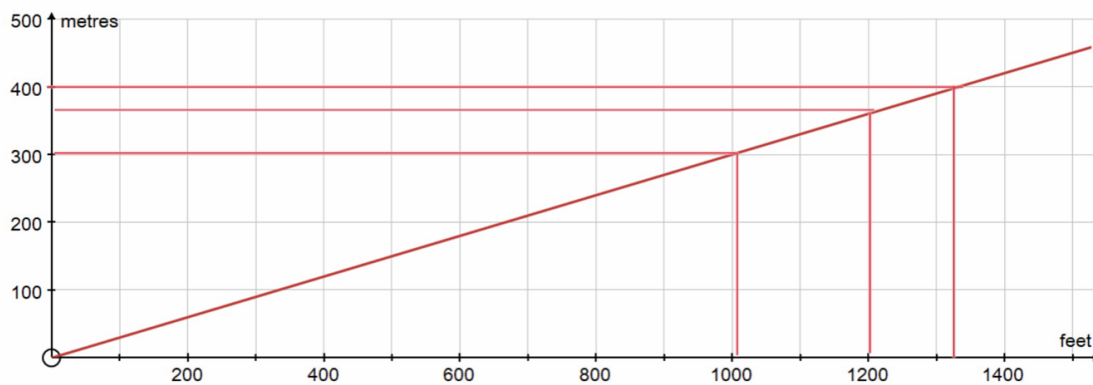
3

The chart shows the conversion between British pounds and the Euro. Use the chart to answer the questions below.



- How many British pounds can I get for €20? £18
 - How many Euros can I get for £9? €10
 - Estimate how many British pounds I can get for €15? £13.30
 - Estimate how many Euros I can get for £15? €16.60
- } approx.

4



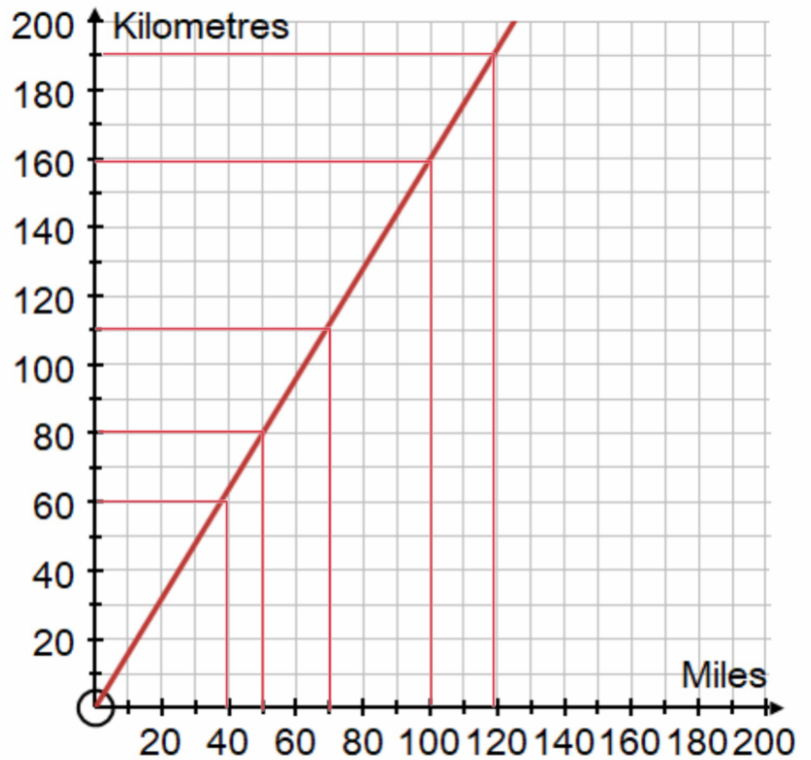
- How many feet there are in 300 metres. 1000 feet
- How many metres there are in 1200 feet. 370m approx.
- How many feet there are in 800 metres. $1320 \times 2 = 2640$ A approx.

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Use the conversion graph to estimate:

- a) 190 km in miles 120
- b) 50 miles in km 80
- c) 160 km in miles 100
- d) 40 miles in km 60
- e) 140 miles in km 110 x 2 = 220



Metric Units of Measure	Imperial Units of Measure
<p>Length: 1 km = 1000m 1m = 100cm 1cm = 10mm</p> <p>Weight: 1 tonne = 1000kg 1 kg = 1000g 1g = 1000mg</p> <p>Capacity: 1 litre = 1000ml</p>	<p>Length: 1 mile = 1760 yards 1 yard (yd) = 3 feet 1 foot (ft) = 12 inches</p> <p>Weight: 1 stone = 14 pounds 1 pound (lb) = 16 ounces (oz)</p> <p>Capacity: 1 gallon = 8 pints</p>

Approximate Equivalences (\approx means 'is approximately equal to')
<p>Length:</p> <p>8 km \approx 5 miles (1 mile \approx 1.6km)</p> <p>1 yard \approx 90 cm</p> <p>1 foot \approx 30 cm</p> <p>1 inch \approx 2.5 cm</p> <p>Weight:</p> <p>1 ounce (oz) \approx 30 grams (g)</p> <p>1 kg \approx 2.2 pounds</p> <p>Capacity:</p> <p>1 pint \approx 0.6 litre (l)</p> <p>1 gallon \approx 4.5 litres</p>