

Writing a Ratio as a Fraction or Linear Function

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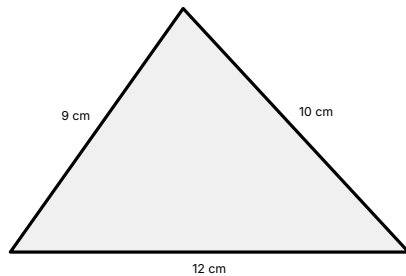
NAME _____

DATE _____

1 Here is a triangle.

EITHER PAPER 5 MARKS

(a)



Work out the length of the shortest side as a fraction of the length of the longest side.

Give your answer as a fraction in its simplest form.

(b) Here is a different triangle.

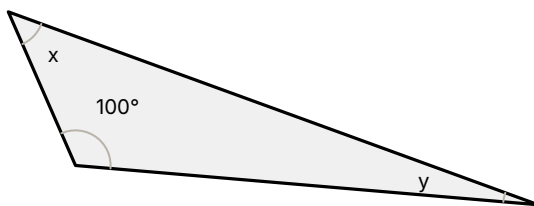


Diagram NOT accurately drawn

$$x = 3y$$

Work out the size of angle y .

2 A box contains only silver, gold and black beads.

EITHER PAPER 3 MARKS

The ratio of silver beads to gold beads to black beads is 2 : 7 : 8.

(a) What fraction of the beads in the box are gold?

(b) What fraction of the beads in the box are not black?

3 $v : u = 1 : 4$

 EITHER PAPER 1 MARK

Circle the correct equation.

$v = u - 3$ $v = \frac{u}{4}$ $v = u + 3$ $v = 4u$

4 $m : n = 8 : 5$

 EITHER PAPER 1 MARK

Circle the correct statement.

n is $\frac{8}{13}$ of m

n is $\frac{5}{13}$ of m

n is $\frac{8}{5}$ of m

n is $\frac{5}{8}$ of m

5 In a pencil case, $\frac{9}{13}$ of the pencils are green. The rest are black.

 EITHER PAPER 4 MARKS

- (a) Write down the ratio of green pencils to black pencils. Give your answer in its simplest form.
- (b) There are 63 green pencils in the pencil case.

Work out how many pencils there are in the pencil case altogether.

6 In a car park there are only vans and cars.

 EITHER PAPER 3 MARKS

The ratio of the number of vans to the number of cars is $3 : 11$.

- (a) Write the number of vans as a fraction of the number of cars.
- (b) Write the number of cars as a fraction of the number of vans.
- (c) What fraction of the vehicles are vans?
-

7 In a car park the ratio of hatchbacks to vans is 5 : 2.

 EITHER PAPER 3 MARKS

The ratio of lorries to vans is 3 : 8.

Work out the ratio of hatchbacks to vans to lorries. Give your answer in its simplest form.

8 $b = \frac{5}{2}a$

 EITHER PAPER 4 MARKS

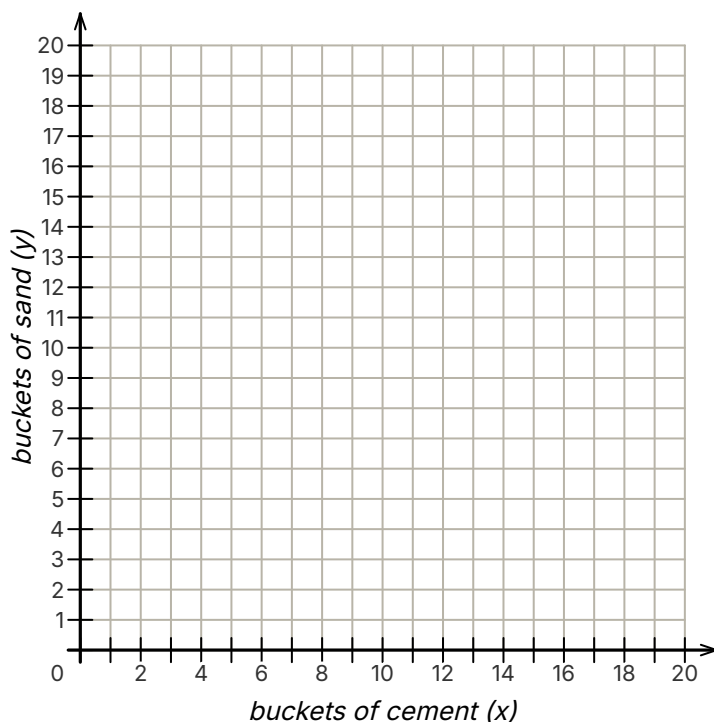
(a) Write down the ratio $a : b$.

(b) b is 21 more than a .

Calculate the value of a .

The number of buckets of sand (y) : the number of buckets of cement (x) = 7 : 5

- (a) Use this information to draw a graph on the grid to show the relationship between the number of buckets of cement and the number of buckets of sand.

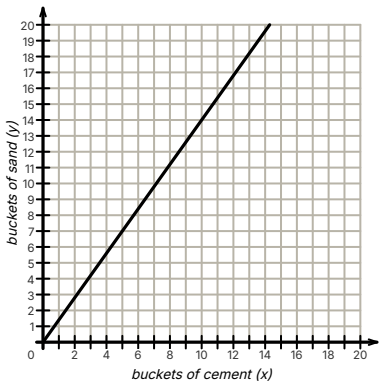


- (b) Find the gradient of the line drawn in part (a).
(c) Explain what this gradient represents.

S is the number of sheep and G is the number of goats.

The ratio $S : G$ is 6 : 7.

- (a) Write down a formula for G in terms of S .
(b) Calculate the value of G when $S = 66$.

1	(a) $\frac{3}{4}$ (b) 20 degrees	2	(a) $\frac{7}{17}$ (b) $\frac{9}{17}$
3	$v = \frac{u}{4}$	4	n is $\frac{5}{8}$ of m
5	(a) 9 : 4 (b) 91	6	(a) $\frac{3}{11}$ (b) $\frac{11}{3}$ (c) $\frac{3}{14}$
7	20 : 8 : 3	8	(a) 2 : 5 (b) 14
9	(a) A straight line through (0, 0), (5, 7) and (10, 14) (b) $\frac{7}{5}$ (c) The number of buckets of sand needed for 1 bucket of cement (a) 	10	(a) $G = \frac{7}{6}S$ (b) 77