

PROPORTION

MNU 4-08a

Using proportion, I can calculate the change in one quantity caused by a change in a related quantity and solve real-life problems.

Pupils should be able to:

- Understand the principle of direct proportion.
- Complete tables of values for variables in direct proportion.
- Solve problems involving variables in direct proportion.
- Sketch graphs showing the relationship of variables in direct proportion.
- Understand the principle of inverse proportion.
- Complete tables of values for variables in inverse proportion.
- Solve problems involving variables in inverse proportion.
- Sketch graphs showing the relationship of variables in inverse proportion.

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
DIRECT PROPORTION Question 1 and 2			
GRAPHS OF DIRECT PROPORTION Question 3			
INVERSE PROPORTION PROBLEM SOLVING Question 4 & 5			
GRAPHS/TABLES of INVERSE PROPORTION Question 6			

mymaths lessons: library/Number/Ratio and Proportion/Proportion Unitary Method
library/Number/Ratio and Proportion/Direct and Inverse Proportion

SELF EVALUATION EXERCISE

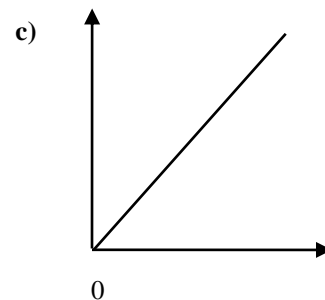
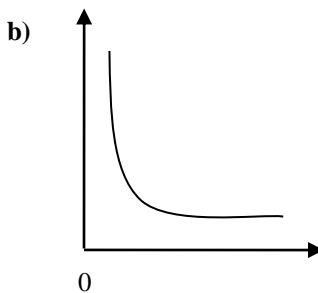
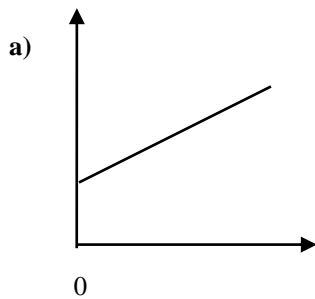
DATE DUE _____

1. A machine takes 15 seconds to make 60 drawing pins.
How many drawing pins will it make in
(a) 1 second (b) 6 seconds (c) 5 seconds
2. A local supermarket displays the following prices for various groceries
Fill in the prices on the shopping bill to the right and calculate the total paid.

Cucumbers £0.45 half portion
Eggs £1.44 for six
Green Peppers £1.20 for three
Unsalted Butter £1.20 for 250g
Gala Apples £1.04 for four
Diet Coke £1.90 for two litres

Monday 14 th May	
6 litres Diet Coke	_____
500g Unsalted Butter	_____
1 Green Pepper	_____
3 Gala Apples	_____
Total	£

3. Which one of these is a graph of quantities in Direct Proportion -explain.



4. It takes 12 workmen 3 hours to repair a roof. How long will it take 6 workmen to complete this task, working at the same rate?
5. 6 pupils take a whole 40 minute period to deliver leaflets around the school. How many pupils are needed to deliver the same number of leaflets in a 10 minute registration period?
6. Andy has £60 to spend for his birthday celebration. He considers inviting different numbers of guests. Copy and complete the table to show the cost per head for the different numbers of guests.

No of guests	1	2	3	4	5	6	10	12	15	20	30	60
Cost per head	60				12				4			

What kind of proportion does this show?

Draw a graph of his results.