

N205 Direct and inverse proportion 1

Q1.

$$\text{If } a = \frac{24}{b}$$

(a) Find a when $b=2.5$

(1)

(b) Find b when $a=3$

(1)

(Total for question = 2 marks)

Q2.

$$\text{If } c=1.5d$$

(a) Find c when $d=9$

(1)

(b) Find d when $c=27$

(1)

(Total for question = 2 marks)

Q3.

$$\text{If } D = \frac{21}{E}$$

(a) Find D when E = 105

(1)

(b) Find E when D = 1.5

(1)

(Total for question = 2 marks)

Q4.

At a depth of x metres, the temperature of the water in an ocean is T °C.
At depths below 900 metres, T is inversely proportional to x .

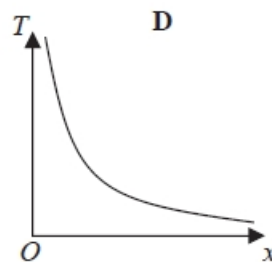
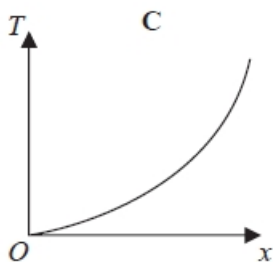
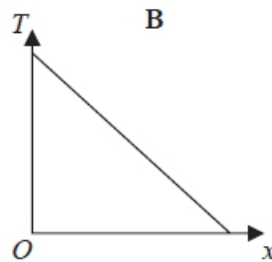
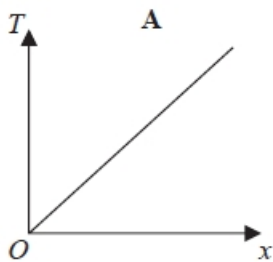
T is given by

$$T = \frac{4500}{x}$$

- (a) Work out the difference in the temperature of the water at a depth of 1200 metres and the temperature of the water at a depth of 2500 metres.

..... °C
(3)

Here are four graphs.



One of the graphs could show that T is inversely proportional to x .

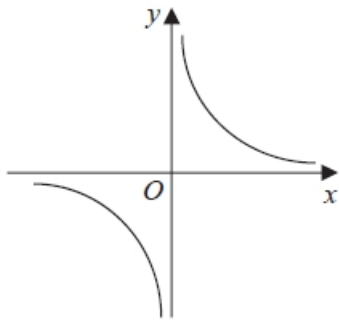
- (b) Write down the letter of this graph.

.....
(1)

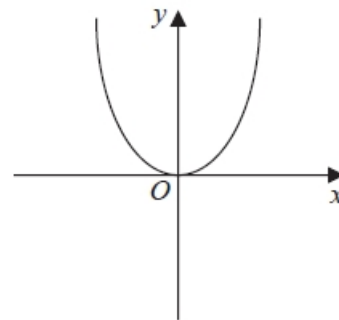
(Total for question = 4 marks)

Q5.

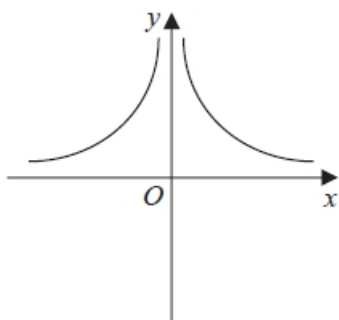
These graphs show four different proportionality relationships between y and x .



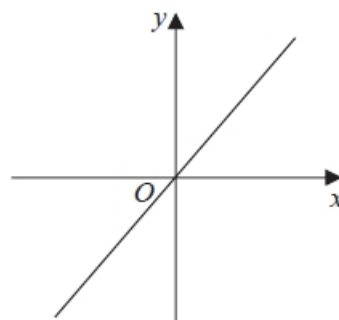
Graph A



Graph B



Graph C



Graph D

Match each graph with a statement in the table below.

Proportionality relationship	Graph letter
y is directly proportional to x	
y is inversely proportional to x	
y is proportional to the square of x	
y is inversely proportional to the square of x	

(Total for question is 2 marks)

Q6.

D is directly proportional to the cube of n .

Mary says that when n is doubled, the value of D is multiplied by 6

Mary is wrong.

Explain why.

.....
.....
.....

(1)

(Total for question = 1 mark)