Direct and Inverse Proportion Revision

(a)

y is directly proportional to x. When $x = 8, y = 40$. Find a formula for y in terms of x.

(b)

F is inversely proportional to t. When $F = 2.5, t = 4$. Find a formula for F in terms of t.

(c)

p is directly proportional to the square of q. When $q = 3$, $p = 90$. Find a formula linking p and q.

(d)

y is directly proportional to x^3. When $x = 5, y = 2500$. Find a formula for y in terms of x.

(e)

Sketch the graph showing y is inversely proportional to x.

(f)

y is directly proportional to $\sqrt{x}$. When $x = 4, y = 0.5$. Find the value of y when $x = 64$.

(g)

d is inversely proportional to w^2. When $w = 0.5, d = 12$. Find a formula for d in terms of w.

(h)

T is inversely proportional to $\sqrt{L}$. When $L = 16, T = 25$. Find the value of L when $T = 10$.

(i)

The distance d travelled by a ball is proportional to the square of the time taken, t. After 4 seconds the ball has travelled 40 m.

(i) Find a formula linking d and t.

(ii) Find the distance travelled after 7 seconds.

(j)

x	1	2	5	10	20
y	100	25	4		

(i) Find a formula for y in terms of x.

(ii) Complete the table.