1

$$V = \frac{k}{H}$$
 where  $k$  is a constant.

Which **two** statements are correct?

Tick two boxes.

[1 mark]

V is directly proportional to H V is inversely proportional to H V is directly proportional to  $\frac{1}{H}$  V is inversely proportional to  $\frac{1}{H}$ 

P, $Q$ and $R$ have positive values.	
P is directly proportional to the square of $Q$ .	
When $P = 1.25$ , $Q = 0.5$	
Q is inversely proportional to $R$ .	
When $Q = 0.5$ , $R = 6$	
Work out the value of $R$ when $P = 0.8$	
[5 n	narks]

Answer \_\_\_\_\_

3	$L$ is directly proportional to $D^2$ $L=85$ when $D=10$	
3 (a)	Work out an equation connecting $L$ and $D$ .	[3 marks]
	Answer	
3 (b)	Work out the value of $L$ when $D=5$	[2 marks]

4 (a) G is directly proportional to the square root of H.

G: H = 3: 2 when H = 16

Work out G: H when H = 100

[4 marks]

Answer \_\_\_\_ : \_\_\_\_

5		H is inversely proportional to the cube root of $L$ . $H=7$ when $L=64$	
5	(a)	Work out an equation connecting $\boldsymbol{H}$ and $\boldsymbol{L}$ .	[3 marks]
		Answer	
5	(b)	Work out the value of $H$ when $\ L=$ 2744	[2 marks]

**6** A chef has a tub of blueberries.

She wants to

use all the blueberries

put the same number of blueberries on each dessert.

$$D = \frac{k}{b}$$

D is the number of desserts.

b is the number of blueberries on each dessert.

6 (a) Complete the table.

[2 marks]

b	2	6	
D	120		30

*		
7	$P,Q,{\rm and}R$ have positive values. P is directly proportional to $QWhen P=8,Q=2$	
	$R$ is inversely proportional to $Q^2$ When $R = 10$ , $Q = 3$	
	Work out the value of $R$ when $P = 0.5$	[5 marks]

?=