

# M4 = 32 days to go!

7 Peter, Jack and Colin share a flat. They pay the rent monthly.

Peter pays 30% of the monthly rent. 30%

Jack pays  $\frac{3}{8}$  of the monthly rent. 37.5%

Colin pays £520 of the monthly rent. 32.5% = £520

Calculate the total monthly rent for the flat.

$$32.5\% = \text{£}520$$

$$1\% = \text{£}16$$

$$100\% = \text{£}1600$$

check it

$$30\% = \text{£}480$$

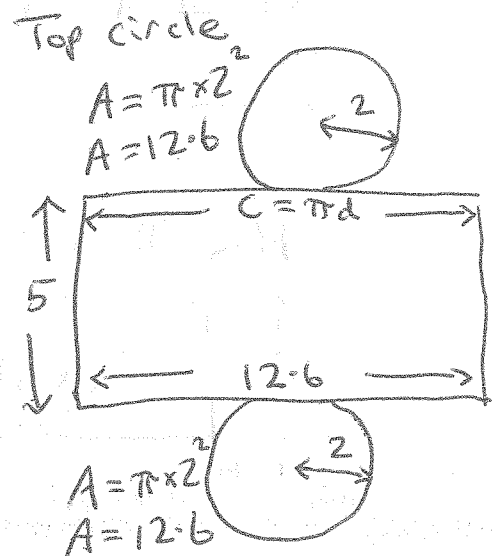
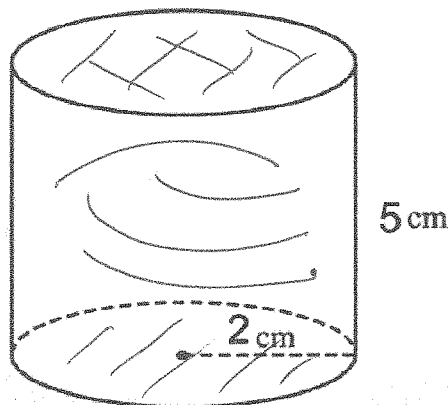
$$37.5\% = \text{£}600$$

$$32.5\% = \text{£}520$$

Answer £ 1600 [5]

1. Below is a cylinder with radius 2cm and height 5cm.

Curved  
(Label)  
= Rectangle  
=  $12.6 \times 5$   
= 62.8



Calculate the surface area of the cylinder.

$$\text{Total Surface Area} = 12.6 + 62.8 + 12.6$$

$$= 88.0 \text{ cm}^2$$

16 The weights, in grams, of a collection of waste bags from a hospital are shown.

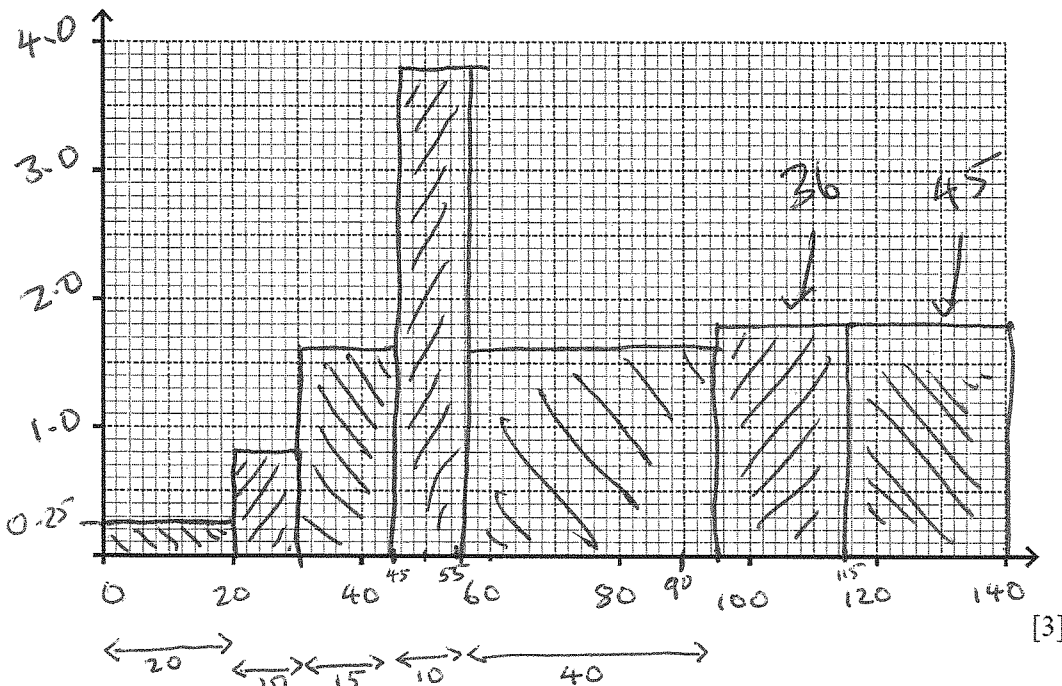
width  
20  
10  
15  
10  
40  
20  
25

Weight, $w$ (g)	Frequency
$0 < w \leq 20$	5
$20 < w \leq 30$	8
$30 < w \leq 45$	24
$45 < w \leq 55$	38
$55 < w \leq 95$	64
$95 < w \leq 115$	36
$115 < w \leq 140$	45

freq. density  
0.25  
0.8  
1.6  
3.8  
1.6  
1.8  
1.8

Area = Frequency

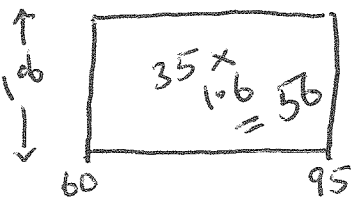
(a) Draw a histogram on the axes provided to illustrate this data.



If you can find area of a rectangle then histograms are easy.

(b) Estimate the number of bags which weighed more than 60 g.

More than 60g



$$56 + 36 + 45 = 137$$

Answer 137 [2]

A stratified sample of 70 bags was selected from those with weights less than or equal to 95 g.

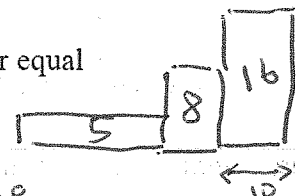
(c) Estimate how many of this sample weighed less than 40 g.

	freq
$0 < \leq 20$	5
$20 < \leq 30$	8
$30 < \leq 45$	24
$45 < \leq 55$	38
$55 < \leq 95$	64

139 bags.

Sample  
just divide by 2.

$$\frac{139}{2} = 70$$



$$5 + 8 + 16 = 29$$

so 14 or 15