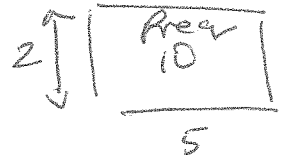


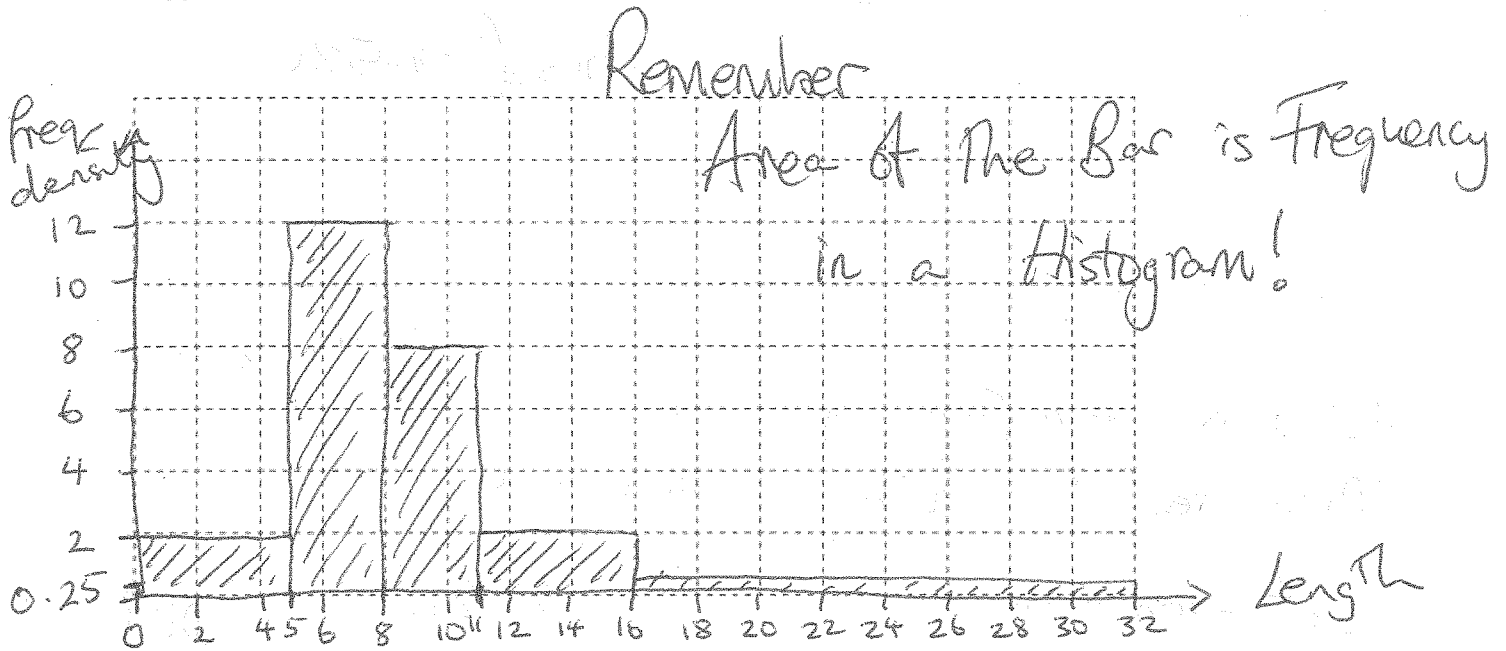
# M4 = 22 days to go!

12 The lengths of times, in minutes, for a group of people to complete a questionnaire online are recorded below.



Length of time	Number of people	
$0 < t \leq 5$	10	$10 \div 5 = 2$
$5 < t \leq 8$	36	$36 \div 3 = 12$
$8 < t \leq 11$	24	$24 \div 3 = 8$
$11 < t \leq 16$	10	$10 \div 5 = 2$
$16 < t \leq 32$	4	$4 \div 16 = 0.25$

(a) Draw a histogram on the grid provided to illustrate this data. [3]



A stratified sample of 20 people is to be selected from those who took less than or equal to 16 minutes to complete the task.

(b) Estimate how many of this sample would have taken more than 8 minutes.

$0 < t \leq 5$	10
$5 < t \leq 8$	36
$8 < t \leq 11$	24
$11 < t \leq 16$	10
} 34	

Answer 8 or 9 [2]

Total = 80

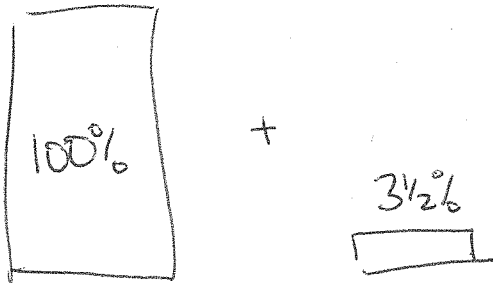
Stratified sample = 20

$$\frac{34}{80} = \frac{8.5}{20}$$

- 2 Bob was given a 3.5% pay rise.  
His salary is now £25378.20  
What was his salary before the rise?

## Reverse Percentage Question

$$? + 3.5\% = 25378.20$$



$$103.5\% = 25378.20$$

$$1\% = 245.20$$

$$\text{Ans } \pounds 24520$$

- 19 Simplify  $\frac{6a^2 + 4a - 16}{8 - 2a^2}$

Factorise everything you can.  
Then see if anything will cancel.

$$6a^2 + 4a - 16$$

$$2(3a^2 + 2a - 8)$$

$$2(3a - 4)(a + 2)$$

$$8 - 2a^2$$

$$2(4 - a^2)$$

$$2(2 + a)(2 - a)$$

DOTS  
Difference  
of  
Two  
squares.

so then

$$\frac{6a^2 + 4a - 16}{8 - 2a^2}$$

$$= \frac{\cancel{2}(3a - 4)(\cancel{a + 2})}{\cancel{2}(\cancel{2 + a})(2 - a)}$$

$$\frac{3a - 4}{2 - a}$$

Answer

Tough  
question!

[3]