

## Mock Revision (F3 only) [43]

1.

$$A = \frac{h(x+10)}{2}$$

Given that  $A = 27$  and  $h = 4$ , work out the value of  $x$ .

(Total 3 marks)

2.

(a) Expand  $3(y - 4)$

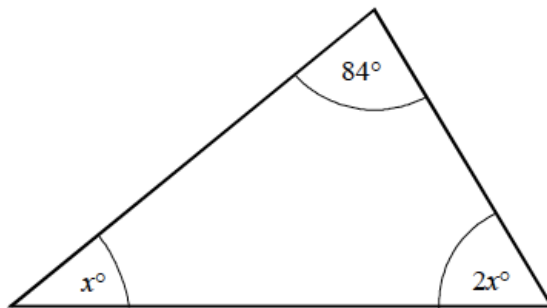
(1)

(b) Simplify the expression

$$2c + 6d + 4c - 8c$$

(2)

- (c) The triangle has angles  $x^\circ$ ,  $2x^\circ$  and  $84^\circ$  as shown.  
Find the value of  $x$ .



Not drawn  
accurately

(3)

(Total 6 marks)

3.

The table shows the age, in years, of workers in a factory.

Age, $x$ (years)	Number of workers
$15 \leq x < 20$	4
$20 \leq x < 25$	10
$25 \leq x < 30$	6
$30 \leq x < 40$	22
$40 \leq x < 60$	8

- (a) Calculate an estimate of the mean age of these workers.

(4)

- (b) Which class interval contains the median age of these workers?  
You **must** show your working.

(2)

(Total 6 marks)

4.

Factorise

(a)  $4x - 8$

(1)

(b)  $y^2 + 2y$

(2)

(Total 3 marks)

5.

Anne buys a printer costing £90. This cost includes VAT at a rate of 17.5%.

How much is the VAT?

(Total 3 marks)

6.

Calculate the size of an interior angle of a regular octagon.

(Total 3 marks)

7.

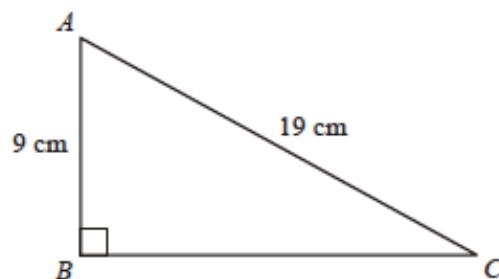
Javier invests £2400 at a rate of 3.2% per year compound interest.

Calculate the total amount of interest he will have earned after 4 years.  
Give your answer correct to the nearest penny.

(Total 4 marks)

8.

- (a)  $ABC$  is a right-angled triangle.  
 $AC = 19$  cm and  $AB = 9$  cm.

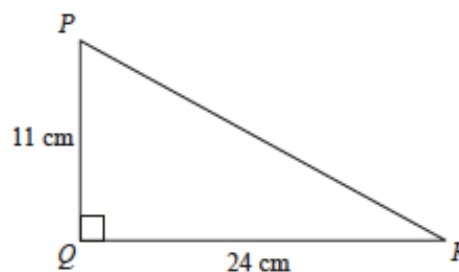


Not to scale

Calculate the length of  $BC$ .

(3)

- (b)  $PQR$  is a right-angled triangle.  
 $PQ = 11$  cm and  $QR = 24$  cm.



Not to scale

Calculate the size of angle  $PRQ$ .

(3)

(Total 6 marks)

9. Find the smallest integer value of  $x$  that satisfies the inequality  $4(5 - 7x) < -36$

(Total 3 marks)

10.

A shop reduces the price of its dresses by 30%.  
As a result it sells 60% more dresses than last month.  
Calculate the percentage increase in its takings.

(Total 4 marks)

11.

- (a) Write down the equation of a line parallel to  $y = 5x + 3$  that passes through the point  $(0, -7)$ .

- (b) Find the equation of the line through the points  $(-3, -17)$  and  $(0, 1)$ .

(Total 5 marks)