

7 Here are five times, in a single day, using the 24-hour clock.

A	B	C	D	E
11 53	15 20	08 20	18 12	16 45

(a) Write down the letter of the time nearest to 6 pm

.....  
(1)

(b) Work out the difference, in hours and minutes, between time A and time E.

..... hours ..... minutes  
(2)

Francesco uses the rule below to find the time, in minutes, to cook a chicken in his oven.

**Number of minutes to cook a chicken**  
Multiply the weight of the chicken, in kg, by 40 and then add 15

The clock on Francesco's oven shows time B.

Francesco starts cooking a chicken at this time.

He stops cooking the chicken when the clock on his oven shows time E.

(c) Work out the weight of the chicken.

..... kg  
(3)

(d) Use Francesco's rule to write down a formula for the time,  $T$  minutes, to cook a chicken of weight  $k$  kilograms.

.....  
(2)

(Total for Question 7 is 8 marks)



- 8 In Berlin, a watch costs 120 euros.  
In Dubai, the same model of watch costs 600 dirhams.

The currency exchange rates are

**Exchange rates**

$$\begin{aligned}\pounds 1 &= 1.16 \text{ euros} \\ 1 \text{ dirham} &= 0.24 \text{ euros}\end{aligned}$$

Calculate the difference between the cost of the watch in Berlin and the cost of the same model of watch in Dubai.

Give your answer in pounds (£) correct to 2 decimal places.

£.....

**(Total for Question 8 is 4 marks)**

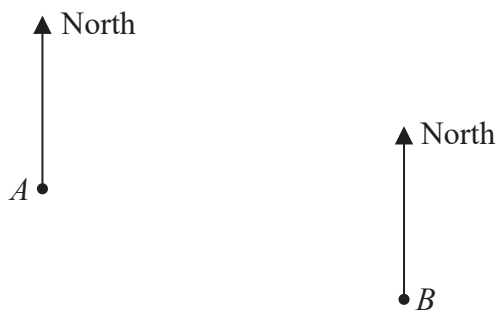
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9 The scale diagram shows the positions of a post office ( $A$ ) and a police station ( $B$ ) in a town.



(a) Measure the bearing of  $B$  from  $A$ .

.....  
(1)

The town hall is at a position  $C$ .  
The bearing of  $A$  from  $C$  is  $045^\circ$

(b) Calculate the bearing of  $C$  from  $A$ .

.....  
(2)

**(Total for Question 9 is 3 marks)**



10 Here is a list of ingredients needed to make 24 currant buns.

**Ingredients for 24 currant buns**

100 grams	butter
70 grams	sugar
140 grams	flour
40 grams	currants
30 millilitres	milk
2	eggs

Gina wants to make 60 currant buns.

(a) Work out the weight of butter Gina needs.

..... grams  
(2)

Hans wants to make 30 currant buns.

(b) Find the percentage increase in the weight of butter needed to make 30 currant buns rather than 24 currant buns.

.....%  
(2)

**(Total for Question 10 is 4 marks)**



11  $w = 5y^2 - y^3$

(a) Work out the value of  $w$  when  $y = -2$

$w = \dots\dots\dots$   
(2)

(b) Factorise fully  $8p^2 - 2p$

$\dots\dots\dots$   
(2)

(c) Expand  $4t(3t - 2)$

$\dots\dots\dots$   
(2)

(d) Expand and simplify  $(5x - 2)(x + 4)$

$\dots\dots\dots$   
(2)

(Total for Question 11 is 8 marks)



- 12 The diagram shows a rectangle  $ABCD$  and a semicircle with diameter  $AB$  where  $AB = 12$  cm. The point  $E$  lies on  $DC$  and also on the semicircle.

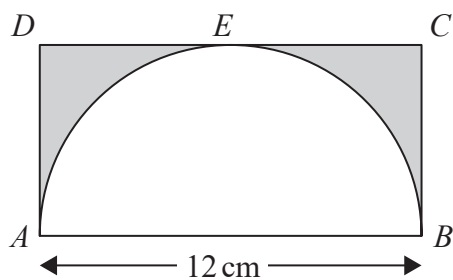


Diagram **NOT** accurately drawn

Work out the area of the shaded region.  
Give your answer correct to 3 significant figures.

..... cm<sup>2</sup>

(Total for Question 12 is 3 marks)

- 13 Solve  $5(2x - 3) = 20$   
Show clear algebraic working.

$x =$  .....

(Total for Question 13 is 3 marks)

