

Revision B F3 (End of Year Exam) [40]

1.

(a) Factorise $6a - 10$

(1)

(b) Factorise fully $6a^2b + 9ab^2$

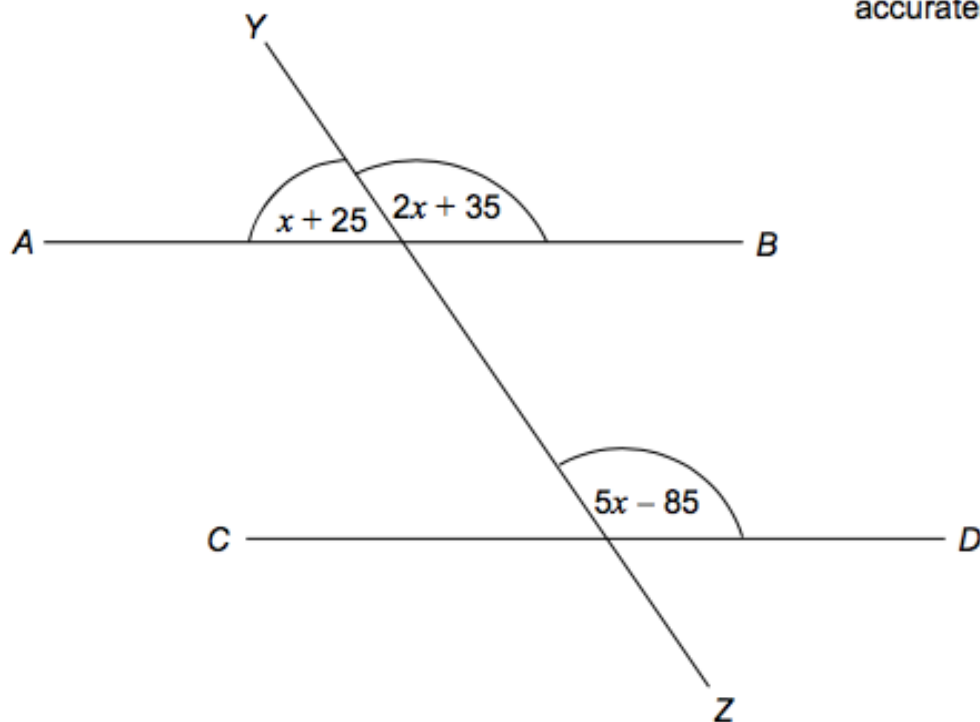
(2)

(Total 3 marks)

2. Non-calculator

AB , CD and YZ are straight lines.

All angles are in degrees.



Show that AB is parallel to CD .

[4 marks]

3.

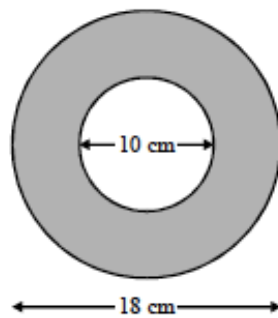
Solve the inequality $4(7 - 5x) \leq 32$

(Total 3 marks)

4.

A circular photo frame is shown below.

The diameter of the photo is 10 cm and the outer diameter of the frame is 18 cm.



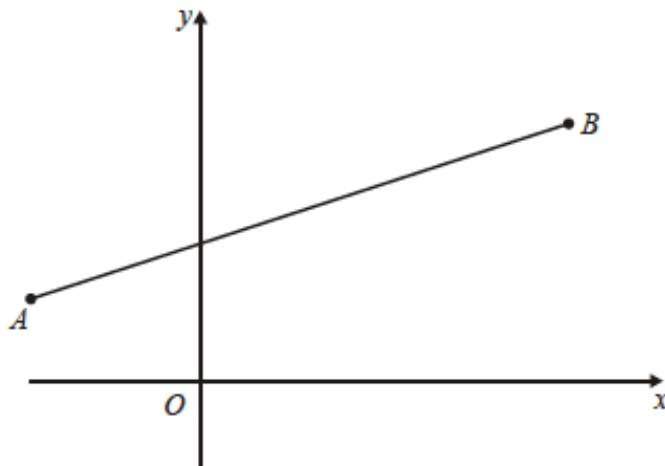
Not to scale

Calculate the area of the frame.

(Total 5 marks)

5.

The diagram shows the points $A(-2, 2)$ and $B(8, 7)$.



Not drawn accurately

Find the equation of the line perpendicular to AB and passing through $(0, 7)$.

(Total 3 marks)

6.

18 rice cakes weigh a total of 130g.

There are 329 calories in 100g of rice cakes.

How many calories are there in one rice cake?

(Total 3 marks)

7.

Convert $0.1\dot{7}\dot{2}$ to a fraction in its lowest terms.

[3 marks]

8.

180 g of copper is mixed with 105 g of zinc to make an alloy.

The density of copper is 9 g/cm^3 .

The density of zinc is 7 g/cm^3 .

(a) Work out the volume of copper used in the alloy.

(b) What is the density of the alloy?

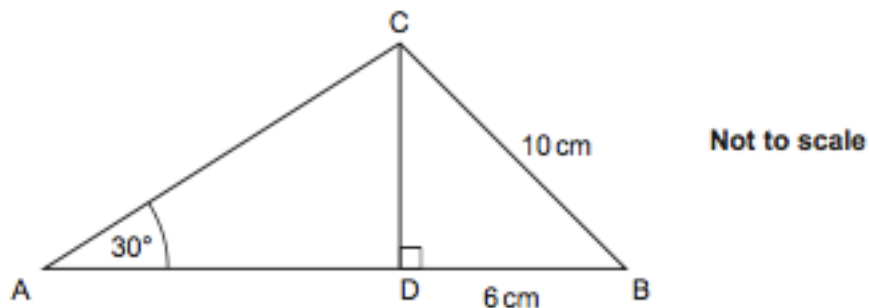
(Total 6 marks)

9. **Non-calculator**

The diagram shows triangle ABC.

D is a point on AB such that $DB = 6 \text{ cm}$.

$BC = 10 \text{ cm}$, angle $CAD = 30^\circ$ and angle $BDC = 90^\circ$.



Work out the ratio length of AC : length of DB in its simplest form.

(Total 5 marks)

10.

Carol made two trips to the USA.

In 2002 she found that the price of a pair of jeans, in dollars, was 18% less than it was in 2001.

However, the exchange rate had changed.

Year	Exchange rate
2001	\$1.42 to £1
2002	\$1.64 to £1

Find the percentage reduction in the price, in £, of the jeans.

(Total 5 marks)