

20 (a) Solve $4y + 5 > 12$

.....
(2)

(b) Solve $6x - 5 = \frac{4x - 7}{2}$

Show clear algebraic working.

$x =$
(3)

(Total for Question 20 is 5 marks)



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21 The diagram shows a regular octagon $ABCDEFGH$ and a regular pentagon $ABIJK$

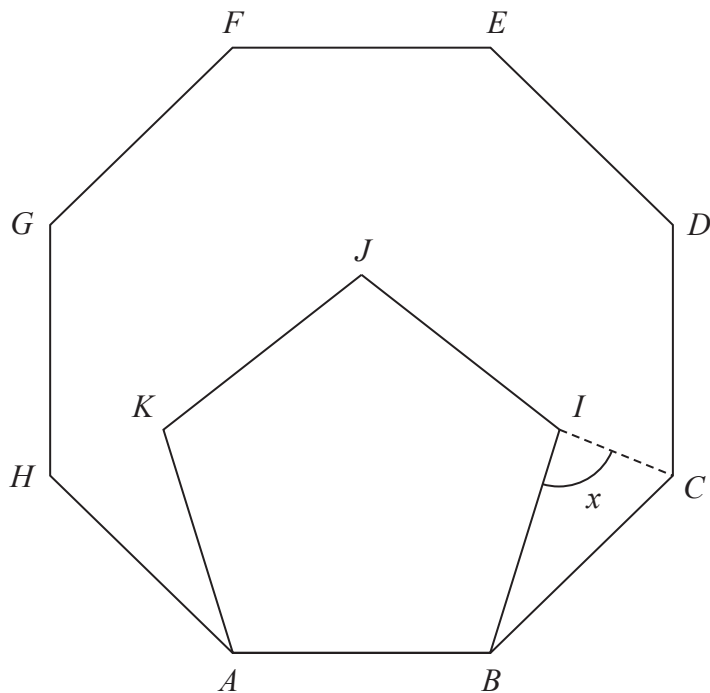


Diagram NOT accurately drawn

Work out the size of the angle x

(Total for Question 21 is 4 marks)



P 6 8 7 2 8 A 0 2 1 2 8

22 Shane invests 7200 dollars for 3 years in a savings account.
He gets 2.5% per year compound interest.

How much money will Shane have in his savings account at the end of 3 years?
Give your answer to the nearest dollar.

..... dollars

(Total for Question 22 is 3 marks)

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23 (a) Write down the value of x^0

.....
(1)

Given that $2^{-3} \times 2^9 = 2^n$

(b) find the value of n

$n =$
(1)

Given that $\frac{7^{206} \times 7^m}{7^{214}} = 7^{-3}$

(c) find the value of m

$m =$
(2)

(Total for Question 23 is 4 marks)



- 24 (a) Write down an equation of the straight line with gradient -3 and which passes through the point with coordinates $(0, 5)$

.....
(2)

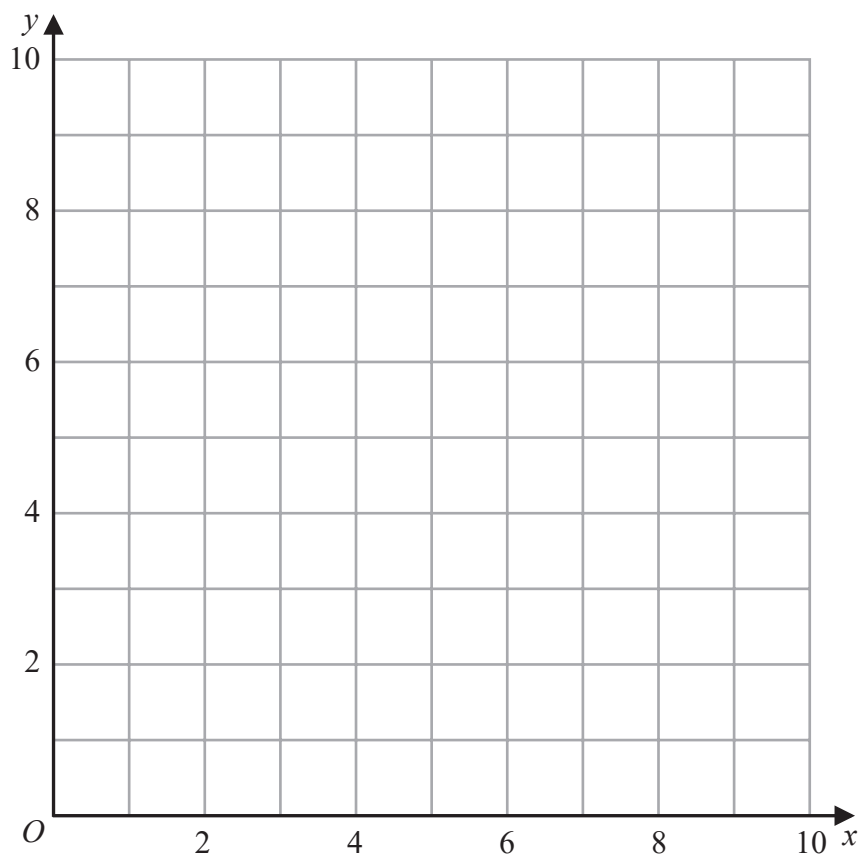
- (b) Show, by shading on the grid, the region defined by **all three** of the inequalities

$$x \leq 6$$

$$y \geq 2$$

$$y \leq x + 1$$

Label the region **R**



(3)

(Total for Question 24 is 5 marks)



25 A scientist is investigating the weight of 50 tigers.

Here is some information about these tigers.

	Type of tiger	
	Siberian	Bengal
Number of tigers	22	28
Mean weight of tigers (kg)	260	

The mean weight of all 50 tigers is 218 kg

Work out the mean weight of the Bengal tigers.

..... kg

(Total for Question 25 is 3 marks)



26 In the diagram, ABC is a right-angled triangle and DEF is a semicircular arc.

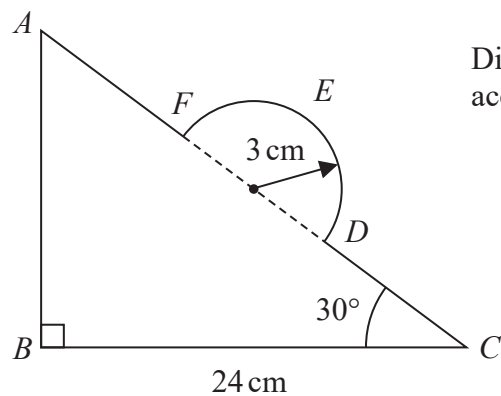


Diagram **NOT**
accurately drawn

In triangle ABC

$$BC = 24 \text{ cm}$$

$$\text{angle } ABC = 90^\circ$$

$$\text{angle } BCA = 30^\circ$$

The points D and F lie on AC so that DF is the diameter of the semicircular arc DEF
The radius of the semicircular arc is 3 cm.

Work out the length of $AFEDC$

Give your answer correct to 2 significant figures.

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..... cm

(Total for Question 26 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS



P 6 8 7 2 8 A 0 2 7 2 8