O

GAN ENG SENG SCHOOL
Preliminary Examination 2025

CANDIDATE NAME			
CLASS		**INDEX NUMBER**	

MATHEMATICS
Paper 2

4052/02

29 August 2025
2 hour 15 minutes

Sec 4 Express / 5 Normal (Academic)

Candidates are to answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your class, index number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a HB pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.
If working is needed for any question it must be shown with the answer.
Omission of essential working will result in loss of marks.
The use of an approved scientific calculator is expected, where appropriate.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π use either your calculator value or 3.142, unless the question requires the answer in terms of π.

The number of marks is given in brackets [ ] at the end of each question or part question.
The total of the marks for this paper is 90.

	For Examiner's Use
Total	90

Mathematical Formulae

Compound interest

$$\text{Total amount} = P\left(1+\frac{r}{100}\right)^n$$

Mensuration

$$\text{Curved surface area of a cone} = \pi rl$$

$$\text{Surface area of a sphere} = 4\pi r^2$$

$$\text{Volume of a cone} = \frac{1}{3}\pi r^2 h$$

$$\text{Volume of a sphere} = \frac{4}{3}\pi r^3$$

$$\text{Area of triangle } ABC = \frac{1}{2}ab\sin C$$

$$\text{Arc length} = r\theta, \text{ where } \theta \text{ is in radians}$$

$$\text{Sector area} = \frac{1}{2}r^2\theta, \text{ where } \theta \text{ is in radians}$$

Trigonometry

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc\cos A$$

Statistics

$$\text{Mean} = \frac{\sum fx}{\sum f}$$

$$\text{Standard deviation} = \sqrt{\frac{\sum fx^2}{\sum f} - \left(\frac{\sum fx}{\sum f}\right)^2}$$

1. **(a)** Solve the inequality $-\frac{2x+1}{3} \leq \frac{3x-1}{-5}$.

Answer _____ [2]

(b) Express as a single fraction in its simplest form $-\frac{x}{1-3x}+\frac{7}{(3x-1)^2}$.

Answer _____ [3]

(c) Solve the simultaneous equations.

$$5x = 49 - 4y$$
$$4x - 5y = -10$$

Answer $x =$ _____

$y =$ _____ [3]

(d) Simplify $\left(\frac{h^{15}}{64f^{12}}\right)^{-\frac{2}{3}}$.

Answer _____ [2]

2. The organiser of the SG60 events held SG60 concerts on two specific weekends in June 2025. The seats in the concert hall were divided into three sections. The table below summarises the number of tickets sold on Saturday and Sunday in week 1.

	Section A	Section B	Section C (obstructed view)
Saturday	164	144	50
Sunday	128	90	40

(a) Write down a 2×3 matrix **A** to represent the information shown in the above table.

Answer _____ [1]

The price per ticket for each section is as shown in the table below.

	Section A	Section B	Section C
Price per ticket	\$30	\$25	\$20

(b) Represent the price of the tickets in a 3×1 column matrix **P**.

Answer _____ [1]

(c) Evaluate the matrix (1 1)**AP** and interpret the element(s) in the matrix.

Answer _____ [2]

_____

_____ [1]

(d) In week 2, the number of tickets sold changes for the various sections on Saturday and Sunday.

The number tickets sold for section A increased by 25%.
The number of tickets sold for section B increased by 50%.
The number to tickets sold for section C decreased to 80%.

(i) Write down a matrix **M** such that the elements of matrix **F**, where **F** = **AM**, represents the number of tickets sold for sections A, B and C respectively on Saturday and Sunday in week 2.

Answer _____ [1]

(ii) State what each element of matrix **FP** represents.

Answer

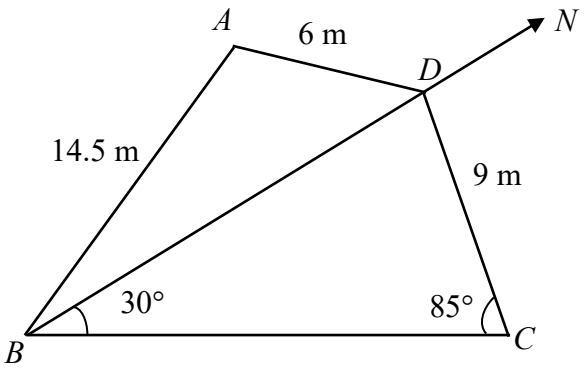
_____

_____

_____

_____ [1]

3. The diagram below shows the points A, B, C and D on the level ground where D is due north of B. $CD = 9$ m, $AB = 14.5$ m, $AD = 6$ m, $\angle DBC = 30°$ and $\angle DCB = 85°$.



(a) Calculate the length of BD.

Answer _____ m [2]

(b) Calculate the bearing of A from D.

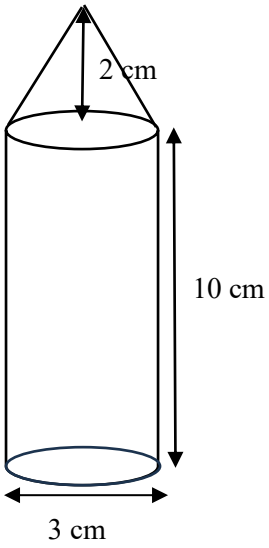
Answer _____ [3]

(c) CT is a vertical pole of height 12 m standing at C.
X is a point along the path BD such that the angle of elevation of the top of the pole, T, from X is the greatest.

Find the angle of elevation of T from X.

Answer _____ [3]

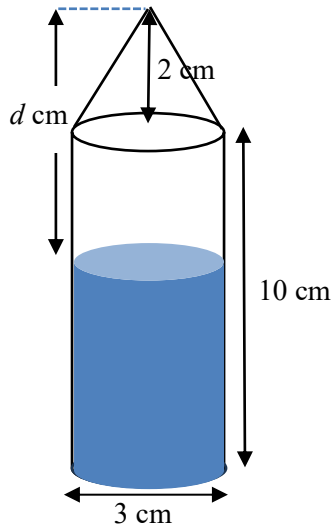
4. A container is in the shape of a cylinder of height 10 cm with a conical top of height 2 cm. The base of the container has a diameter of 3 cm.



(a) Calculate the volume of the container correct to 3 significant figures.

Answer _____ cm^3 [3]

(b) 75% of the container is filled with water as shown in the diagram below. Calculate the depth, d cm, of the empty space in the container.



Answer _____ cm [3]

All the liquid is transferred to fill up a pyramid with square based completely in x minutes.

(c) Find the height of the pyramid if the side of the base is 4 cm.

Answer _____ cm [2]

(d) Find the time taken in terms of x, for the liquid to fill up to $\frac{1}{3}$ the height of the square pyramid in (c).

Answer _____ minutes [1]

5. **(a)** Complete the table of values for $y = \frac{x^2}{7} + \frac{2}{x} - 2$.

Give your answer to 2 decimal places.

x	1	2	3	4	5	6
y	0.14	– 0.42		0.79	1.97	3.48

[1]

(b) Using a scale of 2 cm to 1 unit, draw a horizontal x-axis for $0 < x \leq 6$.
Using a scale of 4 cm to 1 unit, draw a vertical y-axis for $-1 \leq y \leq 5$.
On your grid opposite, plot the points given in the table and join them with a smooth curve. [3]

(c) Use your graph to explain why the equation $\frac{x^2}{7} + \frac{2}{x} - 2 = 0$ has two solutions for $0 < x \leq 6$.

Answer

_____

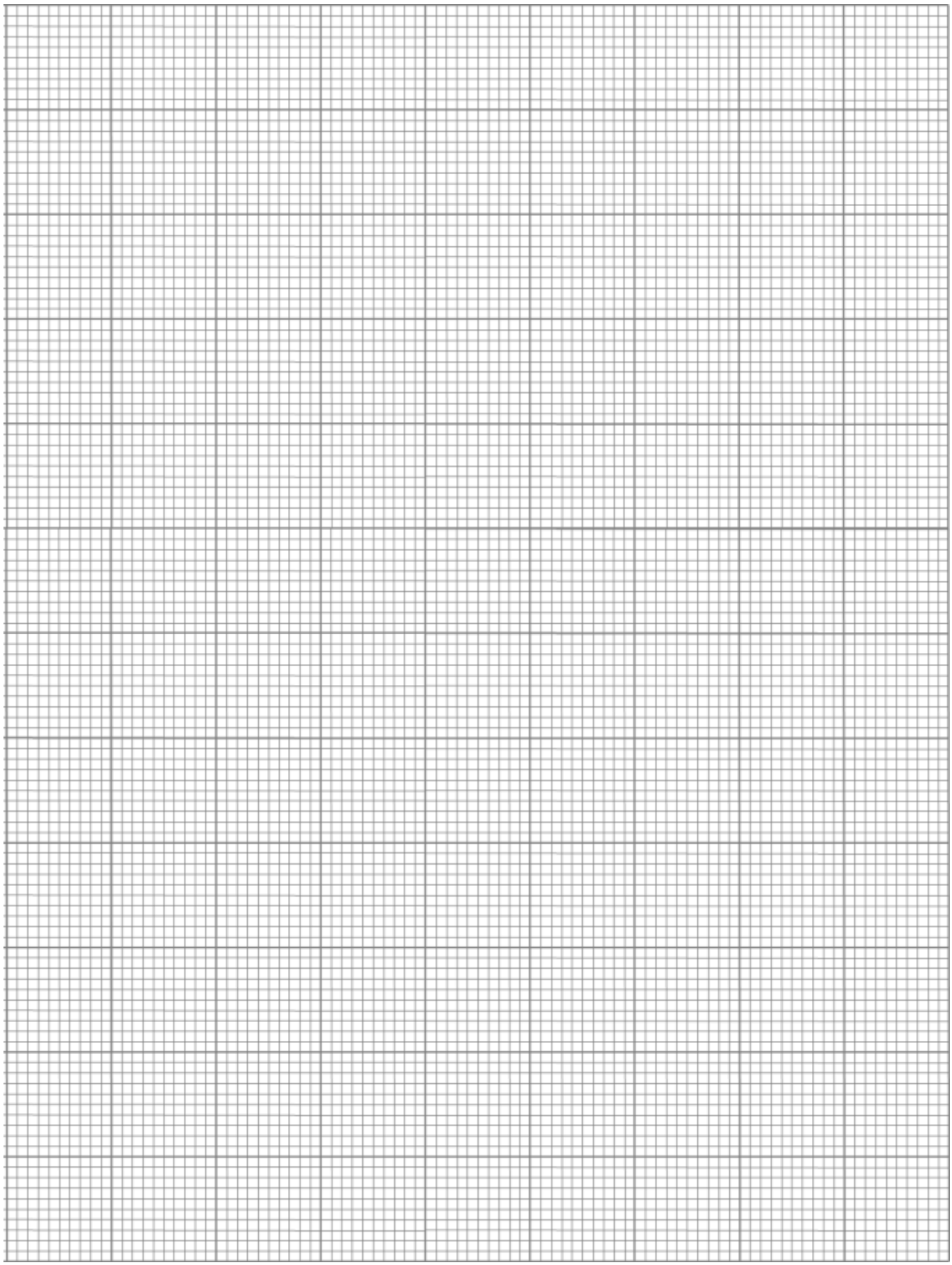
_____ [1]

(d) By drawing a tangent, find the gradient of the curve at (4, 0.79).

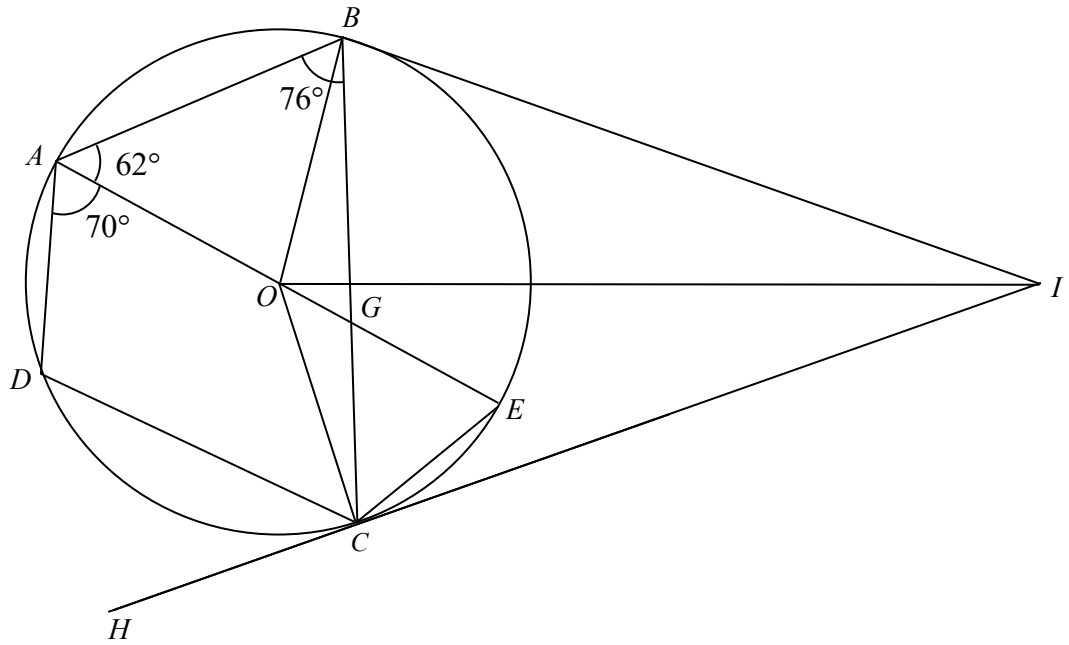
Answer _____ [2]

(e) By drawing a suitable straight line on the grid, solve the equation $x^3 + 7x^2 - 28x + 14 = 0$.

Answer $x =$ _____ [3]



6. **(a)** The points *A, B, C, D* and *E* lie on a circle with centre *O*.
The line *HI* and *BI* are tangents to the circle at *C* and *B* respectively.
BC intersects *AE* at *G*.
Given that $\angle ABC = 76°$, $\angle OAB = 62°$ and $\angle DAE = 70°$.



(i) Show that the triangle *OBI* is congruent to triangle *OCI*. Give a reason for each statement you make.

Answer

_____

_____

_____

_____

_____ [2]

(ii) Give reasons for each step of your working, find

(a) angle *DCB*,

Answer _____ [1]

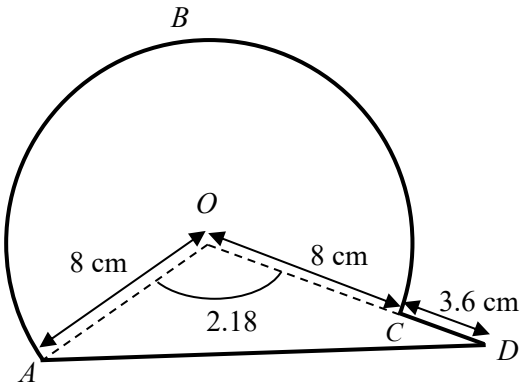
(b) angle *GCO*,

Answer _____ [2]

(c) angle *BCH*.

Answer _____ [1]

(b) In the figure below, O is the centre of the circle. $ABCO$ is a sector.



Given that $\angle AOC = 2.18$ radians, $OA = OC = 8$ cm and $CD = 3.6$ cm,
(i) calculate the perimeter of $ABCDA$,

Answer _____ cm [4]

(ii) find the value of $\frac{\text{area of sector } ABCO}{\text{area of triangle } AOD}$.

Give your answer correct to 2 decimal places.

Answer _____ [3]

7. The waiting times, in minutes, for 50 patients at the Accident and Emergency clinics in two hospitals are given below.

Hospital A

Time (mins)	No. of patients
$20 < t \leq 24$	8
$24 < t \leq 28$	10
$28 < t \leq 32$	21
$32 < t \leq 36$	7
$36 < t \leq 40$	4

Hospital B

Mean = 29.12
Standard Deviation = 3.2

(a) Calculate the mean and standard deviation of the waiting times in hospital A.

Answer Mean = _____ [1]

SD = _____ [2]

(b) Compare briefly, the waiting time for the A&E clinics in both hospitals.

Answer

_____

_____

_____

_____

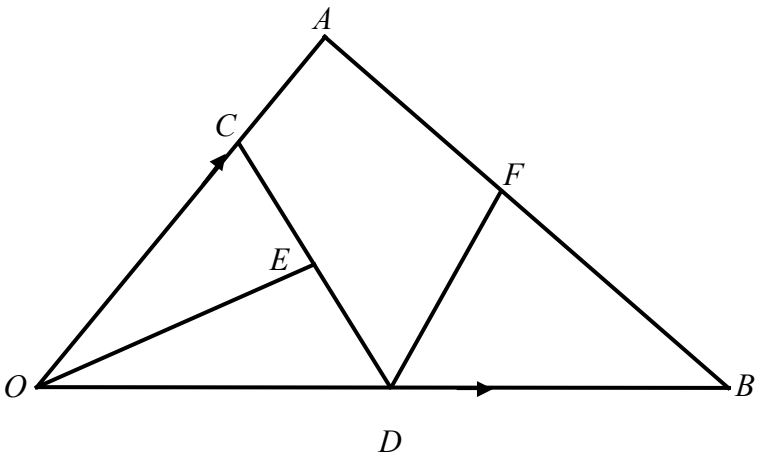
_____

_____ [2]

(c) Two patients are selected at random from the 50 patients in hospital A.
Find the probability of selecting one patient having to wait 24 minutes or less and the other having to wait more than 32 minutes.

Answer _____ [2]

8. In triangle OAB, the point C on OA is such that $3OC = 2OA$. E and D are the midpoints of CD and OB respectively and $AF = mAB$. $\overrightarrow{OA} = \boldsymbol{a}$ and $\overrightarrow{OB} = \boldsymbol{b}$.



(a) Express, as simply as possible, in terms of **a** and **b**,

(i) $\overrightarrow{AB}$,

Answer _____ [1]

(ii) $\overrightarrow{CE}$.

Answer _____ [2]

(b) **(i)** Write down $\overrightarrow{OF}$ in terms of **a**, **b** and m.

Answer $\overrightarrow{OF} =$ _____ [2]

(ii) $\overrightarrow{OE} = \frac{3}{5}(1-m)\,\mathbf{a} + \frac{3}{5}m\,\mathbf{b}$.

Show that O, E and F lie on a straight line.

Answer

[2]

(c) Find, as a fraction in its simplest form,

(i) $\dfrac{\text{area of triangle } AEC}{\text{area of triangle } OEC}$,

Answer _____ [1]

(ii) $\dfrac{\text{area of triangle } OCD}{\text{area of triangle } OAB}$.

Answer _____ [1]

9. Ali and Robert participated in the 42 km running event organised by SC Company. Ali completed the race with an average speed of x km/h. Robert completed the race at an average speed of 2 km/h slower than Ali.

(a) Given that Robert completed the race 30 minutes later than Ali, form an equation in x and show that it reduces to $x^2 - 2x - 168 = 0$.

Answer

[4]

(b) Solve the equation $x^2 - 2x - 168 = 0$.

Answer $x =$_____or_____ [2]

(c) Explain why one of the solutions in (b) must be rejected.

Answer

_____

_____ [1]

(d) Calculate the time taken for Robert to complete the race.

Answer _____ hours [1]

10. Mdm Siti is planning a trip from Singapore to London. She will spend 6 days in London. Here are the information on her trip.

- The total flight duration is 13 hours 50 minutes, which excludes a 2-hour layover at Doha.

Singapore to Doha	7 h 40 min
Doha to London	6 h 10 min

- Her flight departs at 11:15 PM (Singapore time).
- London time is 7 hours behind Singapore time.
- The exchange rate is 1 Pound Sterling (£) = 1.65 Singapore Dollars (SGD).

(a) What is her arrival time in London, in local London time?

Answer _____ [1]

Mdm Siti plans to bring a total amount of SGD$700 for meals, transport, sightseeing and emergencies.
She plans to spend the following amount on average for the entire trip in London:
£25 per day on food
£10 per day on transport
£15 per day on sightseeing
10% of the total amount for emergencies

(b) By showing your working clearly, determine whether SGD$700 is sufficient for her meals, transport and sightseeing.

Answer Sufficient / Insufficient [3]

(c) Mdm Siti plans to spend four days sightseeing in London and only visit 2 attractions per day. She is considering three sightseeing options:

Option	Type	Description
A	Fixed daily pass	4-day London Sightseeing Pass, covering unlimited entries for £90, with 5% discount if she stays more than 5 days in London.
B	Pay-as-you-go	Each attraction costs £12.50.
C	Partial Pass + Pay-as-you-go	She buys a 2-day pass for £35, covering unlimited entries for 2 days, and pays £6 per attraction for the other 2 days.

Assuming the total amount set aside for sightseeing remains the same for the four days, show your calculations and explain which option would be more cost-effective for Mdm Siti, considering her sightseeing plans and budget.

I would recommend Option _____.

Reason : _____

_____ [5]

End of Paper

Solutions

1(a)	$-\frac{2x+1}{3} \le \frac{3x-1}{-5}$ $-\frac{2x+1}{3} \le -\frac{3x-1}{5}$ $5(2x+1) \ge 3(3x-1)$ $10x+5 \ge 9x-3$ $x \ge -8$	**M1** **A1**
1(b)	$-\frac{x}{1-3x}+\frac{7}{(3x-1)^2}$ $=\frac{x}{3x-1}+\frac{7}{(3x-1)^2}$ $=\frac{x(3x-1)}{(3x-1)^2}+\frac{7}{(3x-1)^2}$ $=\frac{x(3x-1)+7}{(3x-1)^2}$ $=\frac{3x^2-x+7}{(3x-1)^2}$ **Alt method** $-\frac{x}{1-3x}+\frac{7}{(3x-1)^2}$ $=-\frac{x}{1-3x}+\frac{7}{(1-3x)^2}$ $=\frac{7}{(1-3x)^2}-\frac{x(1-3x)}{(1-3x)^2}$ $=\frac{7-x+3x^2}{(3x-1)^2}$ $=\frac{3x^2-x+7}{(3x-1)^2}$	**M1** **M1** **A1** **M1** **M1** **A1**

1(c)	$5x = 49 - 4y$ ---------(1) $4x - 5y = -10$ ---------(2) From (1) : $5x + 4y = 49$ ------(3) $(3) \times 4 : 5x + 4y = 49$ --------(4) $(2) \times 5 : 20x - 25y = -50$ ------(5) $(4) - (5)$: $16 - (-25y) = 196 - (-50)$ $41y = 246$ $y = 6$ Subt $y = 6$ into (1) $5x = 49 - 4(6)$ $5x = 25$ $x = 5$ **Ans $x = 5$, $y = 6$**	**M1** **A1** **A1**
1(d)	$\left(\frac{h^{15}}{64f^{12}}\right)^{-\frac{2}{3}} = \left(\frac{64f^{12}}{h^{15}}\right)^{\frac{2}{3}}$ $= \left(\frac{64f^{12}}{h^{15}}\right)^{\frac{2}{3}}$ $= \frac{16f^8}{h^{10}}$	**M1** **A1**
2(a)	$\begin{pmatrix} 164 & 144 & 50 \\ 128 & 90 & 40 \end{pmatrix}$	**B1**
2(b)	$\begin{pmatrix} 30 \\ 25 \\ 20 \end{pmatrix}$	**B1**
2(c)	$\mathbf{AP} = \begin{pmatrix} 164 & 144 & 50 \\ 128 & 90 & 40 \end{pmatrix}\begin{pmatrix} 30 \\ 25 \\ 20 \end{pmatrix}$ $= \begin{pmatrix} 9520 \\ 6890 \end{pmatrix}$ $(1\ 1)\mathbf{AP} = (1 \quad 1)\begin{pmatrix} 9520 \\ 6890 \end{pmatrix}$ $= (16\ 410)$	**M1** **A1**

	The element 16410 represents the total amount collected from the sales of tickets for Saturday and Sunday for the 1st weekend.	**B1**
2(d)(i)	$\begin{pmatrix} 1.25 & 0 & 0 \\ 0 & 1.5 & 0 \\ 0 & 0 & 0.8 \end{pmatrix}$	**B1**
2(d)(ii)	Each element in matrix **FP** represents **the total amount collected from the sales of tickets for Saturday and Sunday respectively** for the 2nd weekend.	**B1**
3(a)	By sine rule, $\frac{BD}{\sin 85°} = \frac{9}{\sin 30°}$ $BD = 17.9315$ (6s.f) BD = 17.9 m (3 s.f)	**M1** **A1**
3(b)	$\cos \angle BDA = \frac{6^2 + 17.9315^2 - 14.5^2}{2(6)(17.9315)}$ = 46.8039º (4 d.p) Bearing = 180º + 46.8039º = 226.804º = 226.8º	**M1** **M1** **A1**
3(c)	Note : Greatest angle of elevation/depression occurs at shortest distance CX. In triangle DCX, $\sin 65° = \frac{CX}{9}$ $CX = 9\sin 65°$ Let θ be the greatest angle of elevation $\tan\theta = \frac{12}{9\sin 65°}$ $\theta = 55.7948°$ (4 d.p) $\theta = 55.8°$ (1 d.p) Students may use area of triangle to find CX.	**M1** **M1** **A1**
4(a)	Vol. of container = $\pi(1.5)^2(10) + \frac{1}{2}\pi(1.5)^2(2)$ = 75.3982 cm^3 (4 s.f) = 75.4 cm^3 (3 s.f)	**M1, M1 for each working** **A1**

4(b)	Vol. of water $= \frac{75}{100} \times 75.3982$ $=56.5487$ (4 s.f) Height of water $= \frac{56.5487}{\pi(1.5)^2}$ $= 8.00$ cm $d = 10 + 2 - 8.0000$ $= 4.00$ (3 s.f)	**M1** **M1** **A1**
4(c)	Let the height of pyramid be h cm. $\frac{1}{3} \times 4 \times 4 \times h = 56.5487$ $h = 10.6029$ (6 s.f) $h = 10.6$ cm (3 s.f)	**M1** **A1**
4(d)	Time $= \left[1 - \left(\frac{2}{3}\right)^3\right] x$ $= \frac{19}{27} x$ minutes Accept $\frac{1}{27} x$ minutes (as students may see it in another perspective)	**B1**
5(a)	$P = -0.05$	**B1**
5(b)	Refer to graph paper	
5(c)	The graph $y = \frac{x^2}{7} + \frac{2}{x} - 2$ **cuts the *x*-axis at 2 points.** Hence, $\frac{x^2}{7} + \frac{2}{x} - 2 = 0$ has 2 solutions	**B1**
5(d)	Accurate tangent line drawn Gradient $= \frac{1.8}{1.8}$ $= 1$ (accepts 1.02 ± 0.05)	**M1** **A1**
5(e)	$x^3 + 7x^2 - 28x + 14 = 0$ $x^2 + 7x - 28 + \frac{14}{x} = 0$ $\frac{x^2}{7} + x - 4 + \frac{2}{x} = 0$ $\frac{x^2}{7} + \frac{2}{x} - 2 = -x + 2$ Line $y = 2 - x$ drawn From graph, $\underline{x = 2.35} \pm 0.05$	**M1** **M1** **A1**

6(a)(i)	$\measuredangle OBI = 90°$ (tan perpendicular rad) $\measuredangle OCI = 90°$ (tan perpendicular rad) OI is a common line. $OB = OC$ (radii of the same circle) By **RHS,** triangle OBI is congruent to triangle OCI.	**M1** **A1**
6(a)(ii)(a)	$\measuredangle DCB = 180 - (62 + 70)$ ($\measuredangle$in opposite segment) $= 48°$	**B1**
6(a)(ii)(b)	$\measuredangle GCE = \measuredangle GAB$ $= 62°$ ($\measuredangle$in the same segment) $OC = OE$ (radii of the same circle) $\measuredangle OCE = \measuredangle OEC = 76°$ (base of isos triangle) $\measuredangle GOC = 76 - 62$ $= 14°$ Accepts other methods (eg. Find angle OBC first)	**M1** **A1**
6(a)(ii)(c)	$\measuredangle OCH = 90°$(tan perpendicular rad) $\measuredangle BCH = 90 + 14$ $= 104°$	**B1**
(b)	Major arclength $= (2\pi - 2.18) \times 8$ $= 16\pi - 17.44$ $AD^2 = 8^2 + (8 + 3.6)^2 - 2(8)(8 + 3.6)\cos 2.18$ $AD = 17.4575$ (6s.f) Perimeter = $16\pi - 17.44 + 3.6 + 17.4575$ = 53.9 cm (3 s.f)	**M1** **M1** **M1** **A1**
(c)	$\frac{\text{area of sector ABCO}}{\text{area of triangle AOD}} = \frac{\frac{1}{2} \times (8)^2 \times (2\pi - 2.18)}{\frac{1}{2} \times (8) \times (8 + 3.6)\sin 2.18}$ = 3.45052 (5 d.p) = 3.45 (2 d.p)	**M1 for denominator** **M1 for numberator** **A1**
7(a)	Mean $= \frac{22(8) + 26(10) + 30(21) + 34(7) + 38(4)}{50}$ =29.12 minutes $\frac{\sum fx^2}{N} = \frac{8(22)^2 + 10(26)^2 + 21(30)^2 + 7(34)^2 + 4(38)^2}{50}$ = 868 Standard deviation = $\sqrt{868 - 29.12^2}$ = 4.474997	**M1** **M1** **A1**
7(b)	The **mean waiting time for hospital A** and hospital **are the same (29.12 min).** Hence, the average waiting time is generally the same for both hospital.	**B1**

	However, the **standard deviation for waiting times in hospital B (3.2 min) is lower than the waiting times in hospital A (4.47 min)**. Hence, the waiting times in hospital B are more consistent.	**B1**
7(c)	P(required) = $\frac{8}{50}\times\frac{11}{49}+\frac{11}{50}\times\frac{8}{49}$ $=\frac{88}{1225}$ Accepts other relevant method	**M1** **A1**
8(a)(i)	$-\underset{\sim}{a}+\underset{\sim}{b}$	**B1**
8(a)(ii)	$\overrightarrow{CD}=\overrightarrow{CO}+\overrightarrow{OD}$ $=\frac{2}{3}(-\underset{\sim}{a})+\frac{1}{2}(\underset{\sim}{b})$ $=-\frac{2}{3}\underset{\sim}{a}+\frac{1}{2}\underset{\sim}{b}$ $\overrightarrow{CE}=\frac{1}{2}\left(-\frac{2}{3}\underset{\sim}{a}+\frac{1}{2}\underset{\sim}{b}\right)$ $=-\frac{1}{3}\underset{\sim}{a}+\frac{1}{4}\underset{\sim}{b}$	**M1** **A1**
8(b)(i)	$\overrightarrow{OF}=\overrightarrow{OA}+\overrightarrow{AF}$ $=\underset{\sim}{a}+m(-\underset{\sim}{a}+\underset{\sim}{b})$ $=(1-m)\underset{\sim}{a}+m\underset{\sim}{b}$	**M1** **A1**
8(b)(ii)	$\overrightarrow{OE}=\frac{3}{5}\overrightarrow{OF}$ Since $\overrightarrow{OE}$ is a scalar multiple of $\overrightarrow{OF}$ and there is a common point *O*, *O, E* and *F* lie on a straight line.	**M1** **A1**
8(c)(i)	$\frac{\text{area of triangle AEC}}{\text{area of triangle OEC}}=\frac{\frac{1}{2}\times 1\times h}{\frac{1}{2}\times 2\times h}$ $=\frac{1}{2}$	**B1**
8(c)(ii)	$\frac{\text{area of triangle OCD}}{\text{area of triangle OAD}}=\frac{\text{area of triangle OCD}}{\text{area of triangle OAD}}\times\frac{\text{area of triangle OAD}}{\text{area of triangle OAB}}$ $=\frac{2}{3}\times\frac{1}{2}$ $=\frac{1}{3}$ **Accepts other methods**	**B1**
9(a)	Time taken by Ali = $\frac{42}{x}$ h Time taken by Robert = $\frac{42}{x-2}$ h $\frac{42}{x-2}-\frac{42}{x}=\frac{1}{2}$	

	$\frac{42x-42(x-2)}{x(x-2)}=\frac{1}{2}$ $\frac{84}{x(x-2)}=\frac{1}{2}$ $x(x-2)=168$ $x^2-2x-168=0$	**M1** ($\frac{42}{x}$ and $\frac{42}{x-2}$ seen) **M1** **M1** **M1 (able to reduce)**
9(b)	$x^2-2x-168=0$ $(x+12)(x-14)=0$ $x=-12$ *or* $x=14$ Accept by Formula method	**M1** **A1**
9(c)	Since x represents speed, x cannot be negative.	**B1**
9(d)	Time taken $=\frac{42}{14-2}$ $=3.5$ h	**B1**
10(a)	Total time taken = 13 h 50 min + 2 h = 15h 50 min Time = 8.05 am	**B1**
10(b)	Total per day = £25 + £10 + £15 = £50 Total for 6 days = 6×50 = £300 Assuming that he needs to save 10% of the total amount of \$700 Total planned spending = $300(1.65)+\frac{10}{100}\times700$ = \$565 **Sufficient** Alternative Solutions : Assuming that he needs to save 10% of the total amount planned for 6 days : Total planned spending = $300(1.65)+\frac{10}{100}\times(300\times1.65)$ = \$544.50	**M1** **M1** **A1** **M1***

10(c)	Budget = 15×4 =£60 **Option A** Full price = £60 Discount = $\frac{5}{100} \times 90$ = £4.50 Final cost = 60 - 4.50 = £55.50 Exceed budget **Option B** 8 attractions ×12.50 =£100 Exceed budget **Option C** 2 day pass = £35 Remaining 2 days = 4 attractions ×6 =£24 Total cost = £35 + £24 =£59 Cover all attractions with sufficient budget. Money left = £60 – £59 = £1 I would recommend C. It meets all her sightseeing needs at the lowest cost and meeting her budget of $60.	**M1** **M1** **M1** **M1** **A1**