WESTMINSTER
International University in Tashkent

An Accredited Institution of
the University of Westminster (UK)

Westminster International University in Tashkent

CPFS

ENTRANCE EXAMINATION
MATHEMATICS

Date: 12 August 2025

Time allowed: 1 hour 30 minutes

ANSWER ALL QUESTIONS IN DETAIL, SHOWING ALL YOUR WORK ON THE SAME PAGE AS THE QUESTION. THE ANSWERS PROVIDED ON THE DRAFT PAGE OR ON THE SEPARATE SHEETS WILL NOT BE CONSIDERED.

NO BOOKS, NOTES OR ANY SORT OF ASSISTING MATERIAL ARE ALLOWED.

Surname	
Name	
Middle name	
Signature	
Do you have an IELTS or a CEFR certificate?	**If YES, your score?**

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PART: MATHEMATICS
10 questions, 10 marks each. Total: 100 points

1	2	3	4	5	6	7	8	9	10	Total

Staff name and signature: _____

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Question 1. **[10m]**

Jamshid thinks of a positive number, ***n.*** He squares ***n***, then adds it to 24. The answer is 49. Work out ***n***.

Question 2. **[10m]**

Indira and Javdat share some money in the ratio Indira : Javdat = 7 : 9. Calculate the percentage of the money that Indira receives.

Question 3. **[10m]**

A coffee blend is made by mixing types A, B, and C costing $5 per kg, $8 per kg, and $12 per kg respectively. The final blend must be 30 kg and cost $9 per kg. If type C is twice the amount of type A, how many kilograms of each type should be used?

Question 4.

a**) Simplify:** **[5m]**

$$\left(\frac{x^2-16}{x^2-4x}\right) \cdot \left(\frac{x}{x+2}\right)$$

b) **Rationalize:** **[5m]**

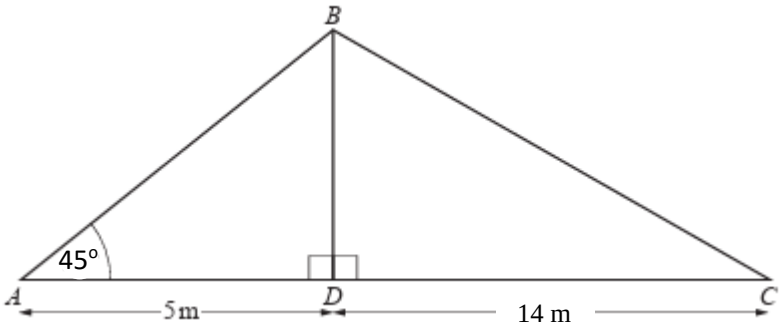
$$\frac{3\sqrt{5} \div 2}{\sqrt{5}-1}$$

Question 5. **[10m]**

A chemist wants to prepare 30 liters of a 60% acid solution by mixing a 40% solution, a 70% solution, and some pure acid (100%).

If he only has 10 liters of the 70% solution available, how many liters of the 40% solution and how much pure acid must he use?

Question 6. **[10m]**



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The diagram shows two right-angled triangles, ABD and BCD. AD= 5m, DC=14 m, and angle BAD = 45°. Calculate the length of BC and $tan\angle BCD$. Write your answers in exact form.

Question 7. **[10m]**

A fruit seller sells half of his apples, then gives away 10, then sells half of the remaining apples, and ends up with 21 apples.

How many apples did he have at the beginning?

Question 8. **[10m]**

A man is 4 times older than his daughter. In 6 years, the sum of their ages will be 62.

In how many years will the man be exactly twice as old as his daughter?

Question 9. **[10m]**

A rectangle has a perimeter of 48 cm and an area of 140 cm^2. Find the length and width of the rectangle.

Question 10. **[10m]**

A group has 5 men and 4 women. A committee of 3 people is selected randomly. What is the probability that at least two women are chosen?

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