



UNIVERSITY  
OF CENTRAL ASIA

# Admissions Exam Sample Questions

## University of Central Asia

## **Admissions Exam Sample Questions**

The University of Central Asia's Admissions Exam will test you on the knowledge areas of English, Math, and Logic. The following 30 questions are samples of what you may see on the complete UCA Admissions Exam. The last page contains the Answer Key. We encourage you to first respond to the questions, and then refer to the Answer Key to check your answers.

## KNOWLEDGE AREA: ENGLISH

Please fill in the blanks with the correct word from the choices below.

1. Student A: I am having a lot of trouble with this assignment  
Student B: Please try and do it as \_\_\_\_\_ as you can.  
  
a. well  
b. good  
c. possible
2. He should have taken more time \_\_\_\_\_ his essay.  
  
a. to edit  
b. editing  
c. for edits
3. Student A: It's good news that Rashid passed his first-year exams, \_\_\_\_ (A) \_\_\_\_  
Student B: Yes, let's hope he's \_\_\_\_ (B) \_\_\_\_ next year, too.  
  
(A)  
a. isn't it?  
b. doesn't he?  
c. weren't they?  
  
(B)  
d. successful  
e. succeed  
f. succeeded
4. \_\_\_\_ (A) \_\_\_\_ sure you adhere to all the ethical procedures when carrying \_\_\_\_ (B) \_\_\_\_ your medical research project.  
  
(A)  
a. To make  
b. Making  
c. Make  
  
(B)  
d. off  
e. up  
f. out

Please choose the word that is most similar to the underlined word in the sentence given.

5. "Have you altered the introduction to your essays?"

Which word is most like *altered*?

- a. forgotten
- b. selected
- c. composed
- d. amended
- e. considered

6. "I assume that the tutors will be able to help me with any essay problems."

Which word is most like *assume*?

- a. suppose
- b. know
- c. doubt
- d. analyze
- e. deduce

The questions below test your knowledge of words that often occur together.

7. "The sound coming from the speakers was intense."

Which word is most often used with *intense*?

- a. intense error
- b. intense formula
- c. intense funds
- d. intense pain
- e. intense version

8. "It was a great relief when we finished the task."

Which word is most often used with *relief*?

- a. breath of relief
- b. sigh of relief
- c. gasp of relief
- d. noise of relief
- e. hum of relief

**The questions below test your knowledge of English grammar and vocabulary. Read the sentences and decide if sentences are “Right” or “Wrong” in their grammar and vocabulary.**

**9.** Do you know what book he was talking about?

- a. Right
- b. Wrong

Do you know what book was he talking about?

- c. Right
- d. Wrong

Do you know what book about he was talking?

- e. Right
- f. Wrong

**10.** Due to the development of the internet, library membership has dramatically decreased in the last few decades.

- a. Right
- b. Wrong

Because of the development of the internet, library membership has dramatically decreased in the last few decades.

- c. Right
- d. Wrong

Owing to the development of the internet, library membership has dramatically decreased in the last few decades.

- e. Right
- f. Wrong

Since the development of the internet, library membership has dramatically decreased in the last few decades.

- g. Right
- h. Wrong

# ANSWER KEY KNOWLEDGE AREA: MATH

There are two types of questions in the UCA Math Admissions exam.

## Section I

### Multiple-Choice Questions:

These will ask you to select an answer from among four choices.

- First read the question and solve the problem on scratch paper. Then choose the correct answer.
- Only one of the answers provided is correct
- If none of the choices matches your answer, go back and check your work for possible errors.
- Record your answer in the answer booklet.

## Section II

### Constructed-Response Questions

These questions will require you to write your responses.

- These questions have more than one part. Be sure to read the directions carefully.
- You cannot receive the maximum score for a constructed-response question without completing all the tasks in the question.
- The questions will ask you to show your work or explain your reasoning.
- All responses must be written in the appropriate location in the answer booklet. Some answers may require graphing, plotting, labeling, drawing or shading. If you use scratch paper to write your draft, be sure to transfer your final response to the answer booklet.

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## SECTION I

### MULTIPLE CHOICE QUESTIONS

1. Which of the following is **NOT** a factor of:

$$4x^2y^4 - 12x^3y^2 - 8xy^3$$

- A.  $2x^2$
- B.  $2xy^2$
- C.  $-2y$
- D.  $4y^2$

- 
2. If  $\frac{a^2+2ab+b^2}{a^2-b^2} = 2a + 2b$ , where  $|a|$  is not equal to  $|b|$ .

What is the value of  $a - b$ ?

- A. 1
- B. -1
- C. 2
- D.  $\frac{1}{2}$

- 
3. Gulnara, Aziz and Omar combined their money to purchase a laptop. Together, they paid a total of \$490 for the laptop, including tax.

- Gulnara paid \$50 more than Aziz paid.
- Aziz paid twice as much as Omar paid.

How much did Gulnara pay?

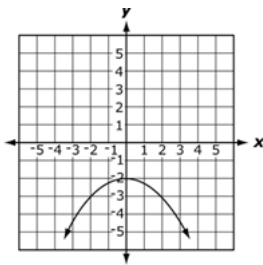
- A. \$108  
B. \$176  
C. \$226  
D. \$295
- 

4. What is the value of the expression below?

$$5 \mid 4 - 6 \mid - (-3)$$

- A.  $-13$   
B.  $-7$   
C.  $13$   
D.  $17$
- 

5. Which function represents this graph?



- A.  $f(x) = -\frac{1}{4}x^2 - 2$   
B.  $f(x) = \frac{1}{4}x^2 - 2$   
C.  $f(x) = -4x^2 - 2$   
D.  $f(x) = 4x^2 - 2$

- 
6. Walking at a constant rate of 8 kilometers per hour, Mirza can cross a bridge in 6 minutes. What is the length of the bridge in meters?

A. 480  
B. 600  
C. 750  
D. 800

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7. The number graph below is the graph of which of the following inequalities?



A.  $-1 \leq x$  and  $3 \leq x$   
B.  $-1 \leq x$  and  $3 \geq x$   
C.  $-1 \leq x$  or  $3 \leq x$   
D.  $-1 \geq$  or  $3 \leq x$

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## SECTION II

### CONSTRUCTED –RESPONSE QUESTIONS

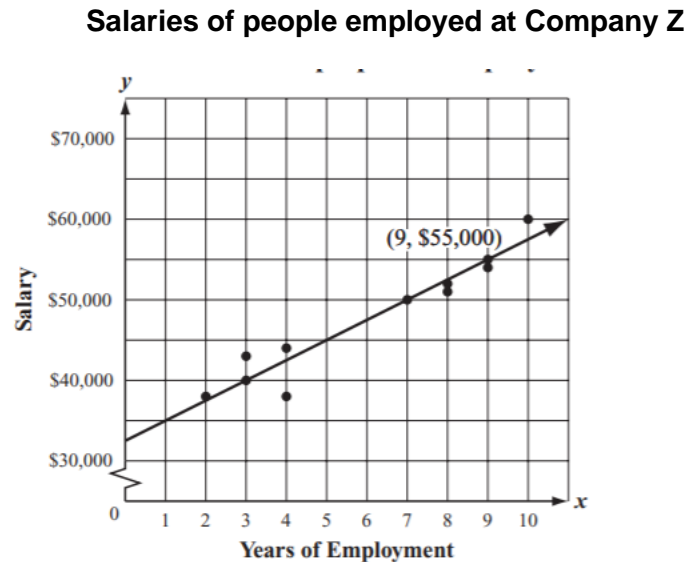
1. Azra wants to earn \$1500 this summer by doing translation work. She plans on working 125 hours during the summer.
- a. Based on her plan, what is the rate, in dollars per hour, that Azra must charge customers for doing the translation to earn \$1500 during the summer? Show or explain how you got your answer.

Azra also wants to enroll in a summer class at a local college. As a result, she will have to work 50 hours less than the total number of hours she had originally planned.

- b. What is the rate, in dollars per hour that Azra must charge customers for doing the translation and still earn \$1500? Show or explain how you got your answer.
- c. Write an equation that represents the relationship between  $x$ , the number of hours Azra will have to work, and  $y$ , the rate she must charge customers to earn \$1500.
- d. Explain how a change in  $x$ , the number of hours Azra will have to work, affects  $y$ , the rate she will have to charge customers to earn \$1500, in your equation from part c.



2. Mirza collected data on the number of years people were employed and their salaries at Company Z. He made a scatterplot and drew a trend line which was approximately the line of best fit for the data, as shown below.



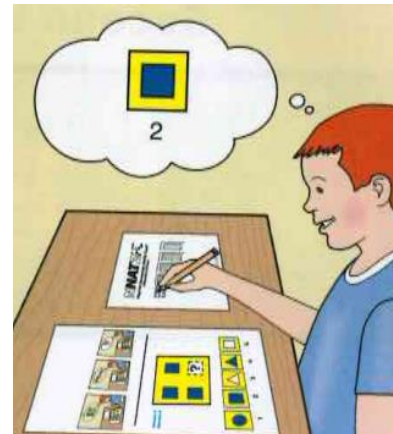
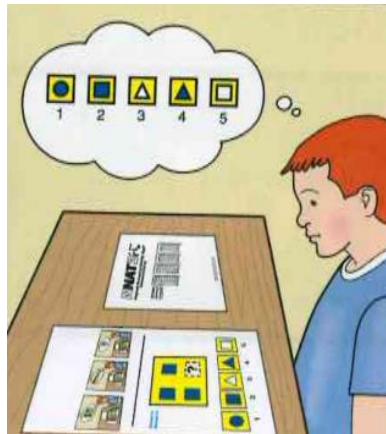
- Based on the trend line drawn for the data, what is the salary a salesperson with 3 years of employment at Company Z can expect to earn? Show or explain how you got your answer.
- What is the slope of the trend line that Mirza drew? Show or explain how you got your answer.
- What does the slope mean in this situation?

Mirza expects his salary to be about \$70,000 after he has been employed as a salesperson at Company Z for 15 years.

- Use the trend line and your answer from part (b) to explain why Mirza's salary expectation is reasonable.

## KNOWLEDGE AREA: LOGIC

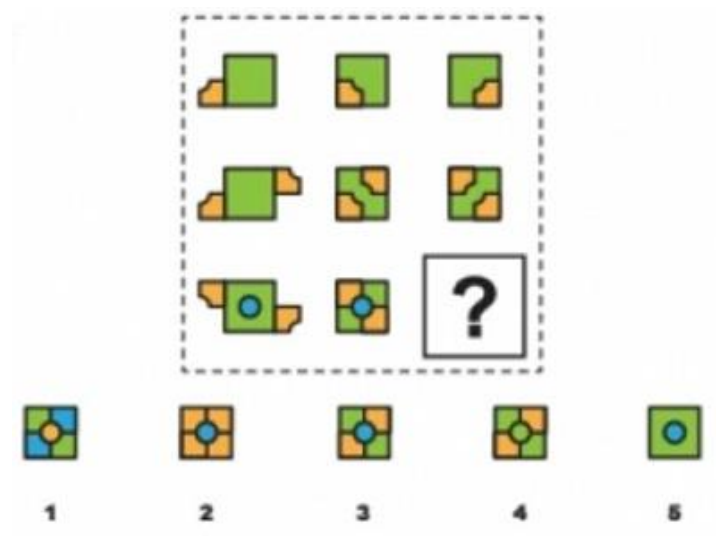
### Instructions



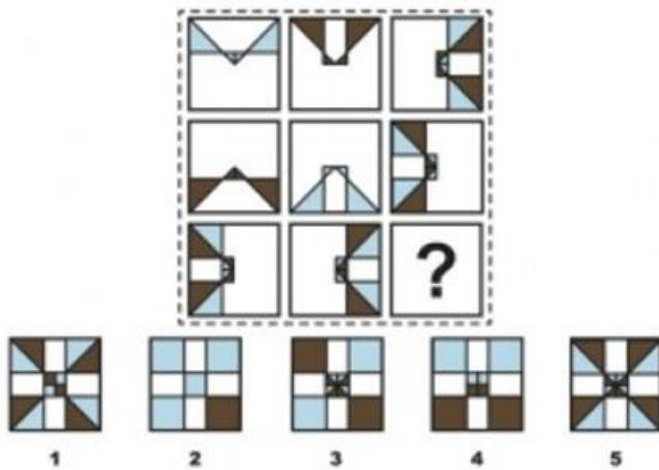
## Visualization

In these questions, notice how the designs in each figure relate to each other and how the objects might look when rotated or combined. Identify what is next in the order of images.

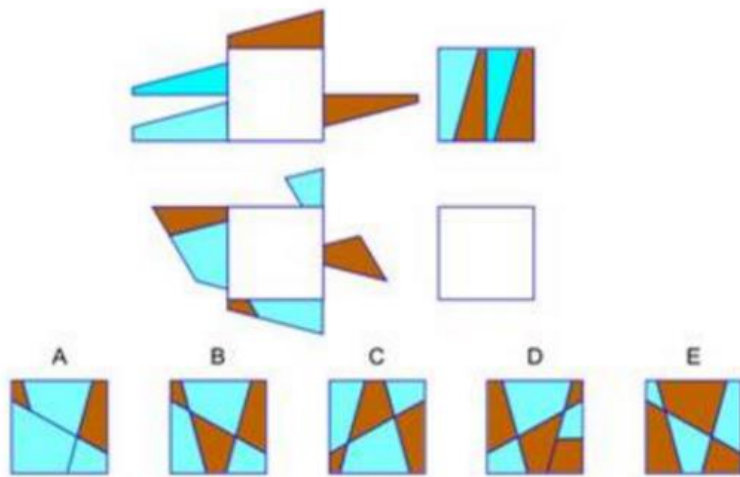
1.



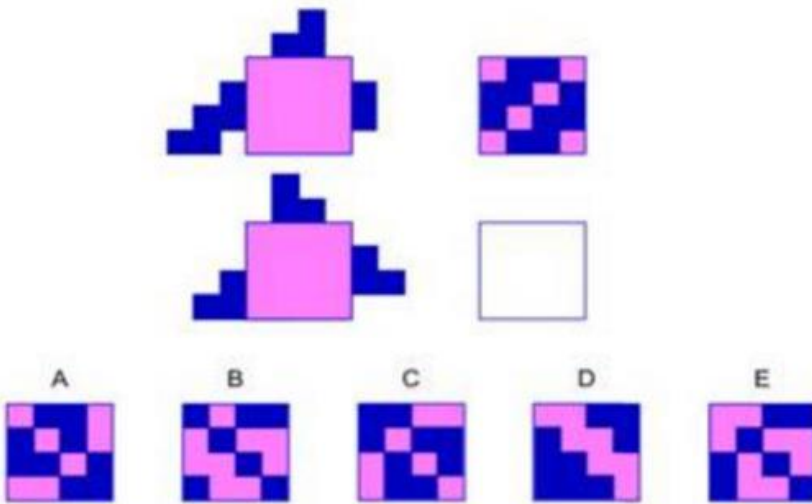
2.



3.



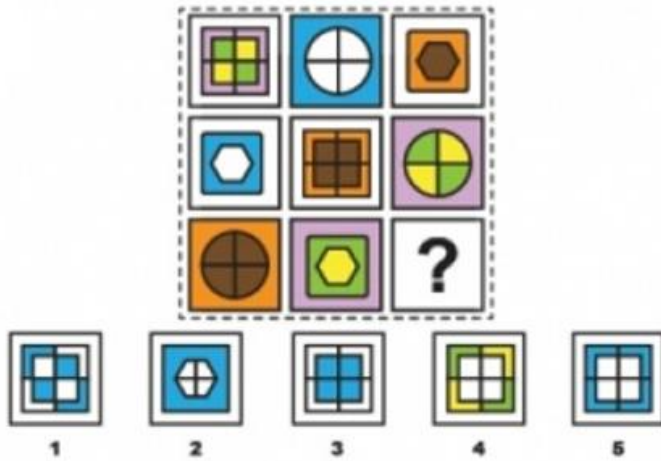
4.



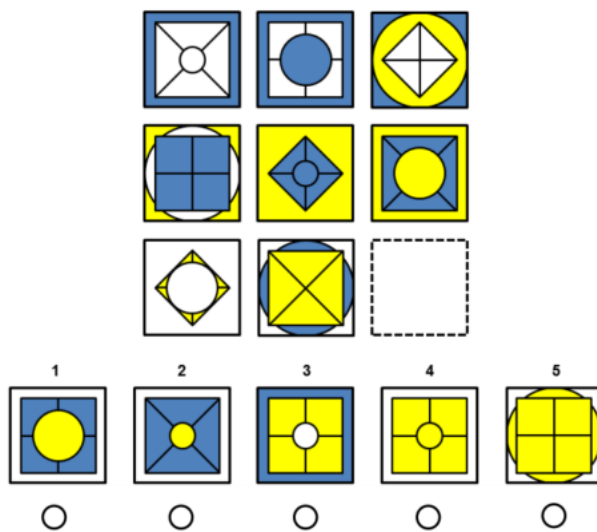
## Order Reasoning

In these questions, notice how the shapes change across the rows and down the columns. Identify the image that completes the pattern.

5.



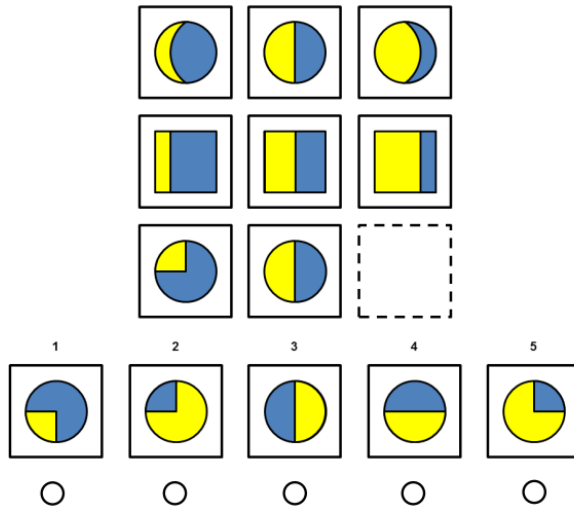
6.



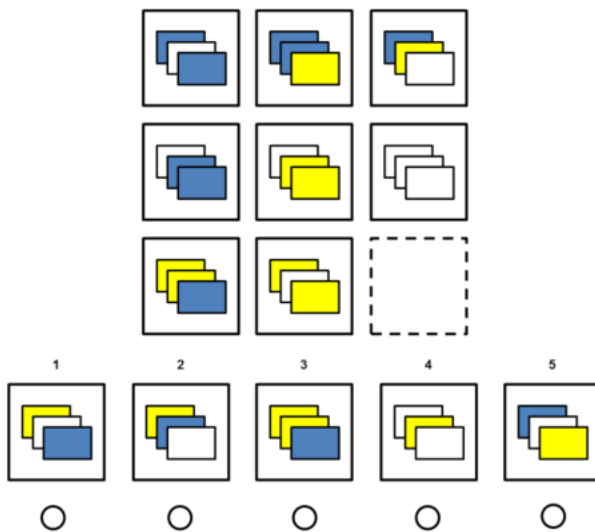
## Reasoning by Analogy

Look for a relationship between the geometric shapes and see how they change across the rows and down the columns. Identify what is next in the order of images.

7.



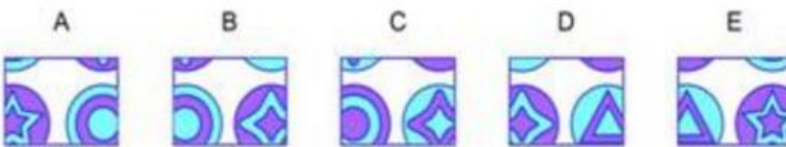
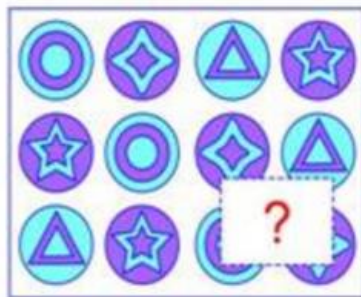
8.



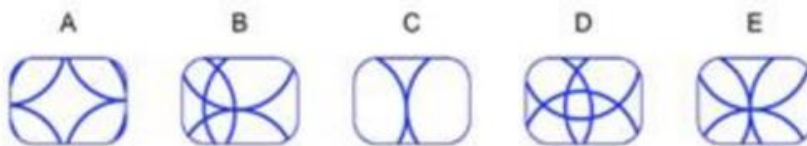
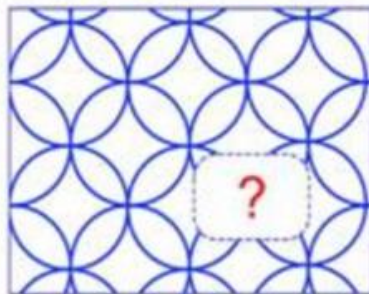
## Pattern Completion

Look at the design in the large rectangle while paying attention to the missing square. Which answer choice completes the design?

9.



10.



**ANSWERS**  
**ANSWER KEY KNOWLEDGE AREA: ENGLISH**

1. (a) well
2. (a) to edit
3. (a) isn't it?  
(d) successful
4. (c) Make  
(f) out
5. (d) amended
6. (a) suppose
7. (d) intense pain
8. (b) sigh of relief
9. (a) Right  
(d) Wrong  
(f) Wrong
10. (a) Right  
(d) Wrong  
(e) Right  
(g) Right



## ANSWERS

### ANSWER KEY KNOWLEDGE AREA: MATH

#### SECTION I

##### Multiple choice questions

1. A
2. D
3. C
4. C
5. A
6. D
7. D

#### SECTION II

##### Constructed Response Questions

##### Problem 1 Rubric – total points 4 (1 point for each part a – d)

- a. Azra wants to earn \$1500 by working 125 hours

$$\$1500 \div 125 \text{ hours} = \$12 \text{ per hour}$$

She should charge customers \$12 per hour

- b. Azra will work  $125 - 50 = 75$  hours

The new rate will be:  $\$1500 \div 75 \text{ hours} = \$20 \text{ per hour}$

- c.  $y = 20$  (rate which Azra must charge)

$x = 75$  (hours needed to work to earn \$1500)

$$xy = 1500$$

- d. From the equation in part c,  $y = \frac{1550}{x}$

If the number of hours Azra works ( $x$ ), her hourly rate ( $y$ ) will increase too be able to earn \$1500.

If the number of hours increases, the hourly rate decreases to be able to earn \$1500.

**Problem 2 Rubric – total points 4 (1 point for each part a – d)**

- a. \$40,000

The trend line intersects the years of employment at 3 years and the salary at \$40,000.

- b. 2500

The two points on the trend line where the x and y axis intersect (years of employment and salary) are (3, 40000) and (9, 55000) or two other points can be chosen which lie on the trend line at the intersection of the axes as long as the slope is correctly calculated.

$$\begin{array}{r} 55000 - 40000 \\ 9 - 3 \\ \hline 15000 \\ 6 \\ \hline 2500 \end{array}$$

- c. Each extra year you work at Company Z after the first year, the salary increases by \$2500.  
The longer you work at Company Z the more money you will make.
- d. Since the slope is 2500, this means each year salaries for most people will go up by \$2500. Since the trend line shows that increase for most people, it is reasonable for Mirza to expect his salary to be \$70,000 after 15 years.

Starting salary is \$32,500

Each year the salary increases by \$2500.

At the end of 15 years, the total increase is  $2500 \times 15 = \$37500$

Add the salary increase to the starting salary:  $37,500 + 32,500 = \$70,000$

**ANSWER KEY**  
**KNOWLEDGE AREA: LOGIC**

- 1.** Correct Answer: 3
- 2.** Correct Answer: 5
- 3.** Correct Answer: B
- 4.** Correct Answer: C
- 5.** Correct Answer: 5
- 6.** Correct Answer: 4
- 7.** Correct Answer: 5
- 8.** Correct Answer: 2
- 9.** Correct Answer: B
- 10.** Correct Answer: E