

# 平成26年度 推薦入学試験問題

## 数 学

### 【注意事項】

- 1 係員の指示があるまで、問題冊子を開いてはいけません。
- 2 この問題冊子は、表紙を除いて8ページ、解答用紙は2枚あります。
- 3 落丁、乱丁、印刷の不鮮明な箇所などがあつたときは、手を挙げて係員に申し出てください。
- 4 解答用紙には、解答欄以外に受験番号記入欄がありますので、係員の指示に従って2枚とも正しく記入してください。
- 5 解答は、解答欄にのみ記入してください。
- 6 問題冊子の余白等は適宜利用してかまいませんが、どのページも切り離してはいけません。
- 7 試験終了時刻まで退室してはいけません。
- 8 解答用紙は持ち帰ってはいけません。その他は持ち帰ってください。

1 以下の空欄をうめよ.

(1) 放物線  $y = x^2$  と直線  $y = x + 2$  で囲まれた部分の面積は  である.

(2)  $0 \leq \theta \leq \pi$  において  $\sin \theta - \sqrt{3} \cos \theta = \sqrt{2}$  のとき,  $\theta =$   である.

(3) 方程式  $9^x - 3^{x+1} - 10 = 0$  の解は  $x =$   である.

(4)  $\frac{1}{1 \cdot 2} + \frac{1}{2 \cdot 3} + \frac{1}{3 \cdot 4} + \cdots + \frac{1}{2013 \cdot 2014} =$   である.

(計算用紙)

(計算用紙)

2 6個の数字0, 1, 2, 3, 4, 5を重複なく用いて作られる3桁の整数について, 以下の空欄をうめよ.

(1) 奇数は  個ある.

(2) 偶数は  個ある.

(3) 5の倍数は  個ある.

(計算用紙)

(計算用紙)

3 AD//BCである台形 ABCD において、AD=4, BC=6, AB=2,  $\angle ABC=60^\circ$  とする。また  $\vec{BC}$  と向きが同じで大きさが1のベクトルを  $\vec{p}$ ,  $\vec{BA}$  と向きが同じで大きさが1のベクトルを  $\vec{q}$  とおく。このとき、以下の問いに答えよ。

(1) 次のベクトルを  $\vec{p}$ ,  $\vec{q}$  を用いて表せ。

$$\vec{AC} = \boxed{\text{イ}}$$

$$\vec{AD} = \boxed{\text{ロ}}$$

$$\vec{BD} = \boxed{\text{ハ}}$$

$$\vec{CD} = \boxed{\text{ニ}}$$

(2)  $\vec{BD}$  の大きさを求めよ。  $\boxed{\text{ホ}}$

(計算用紙)

(計算用紙)

4 放物線  $y = -x^2 + 6x$  上の点 P が  $y > 0$  の部分にあるものとする。点 P から  $x$  軸に下ろした垂線と  $x$  軸との交点を  $Q(a, 0)$  とする。原点を  $O$  とし、 $\triangle OPQ$  の面積を  $S$  とするとき、以下の空欄をうめよ。

(1)  $a$  の値の範囲は  である。

(2)  $S$  を  $a$  を用いて表すと、 $S =$   である。

(3)  $S$  は  $a =$   のとき、最大値  をとる。

(計算用紙)



(計算用紙)

# 平成26年度 推薦入学試験問題

## 英 語

### 【注意事項】

- 1 係員の指示があるまで、問題冊子を開いてはいけません。
- 2 この問題冊子は、表紙を除いて11ページ、解答用紙は1枚あります。
- 3 落丁、乱丁、印刷の不鮮明な箇所などがあつたときは、手を挙げて係員に申し出てください。
- 4 解答用紙には、解答欄以外に受験番号の記入欄がありますので、係員の指示に従って正しく記入してください。
- 5 解答は、解答用紙の解答欄に(A)～(D)から選び記入してください。
- 6 問題冊子の余白等は適宜利用してかまいませんが、どのページも切り離してはいけません。
- 7 試験終了時刻まで退室してはいけません。
- 8 解答用紙は持ち帰ってはいけません。その他は持ち帰ってください。

第1問: 次の会話(1)~(5)のそれぞれの空欄に入る最も適切なものを(A)~(D)の中から一つずつ選びなさい。

(1) Student #1: \_\_\_\_\_

Student #2: No, do your own homework.

- (A) My homework is just perfect.
- (B) You already finished it? Give me the answers.
- (C) What is the homework assignment for tomorrow?
- (D) The teacher is coming.

(2) Doctor: When did you first notice this?

Patient: \_\_\_\_\_

- (A) It started about a month ago.
- (B) I'll notice this from now on.
- (C) I believe the disease is serious.
- (D) How old is your nurse?

(3) Wife: Did you remember to turn off the kitchen light?

Husband: \_\_\_\_\_

- (A) I'm done in the kitchen.
- (B) I don't need it now.
- (C) I forgot! Should we go back home?
- (D) We have a few weeks to decide.

(4) Graduating student: \_\_\_\_\_

Teacher: Not at all. Come back to visit any time.

- (A) Thank you for all you have done for me.
- (B) May I visit you sometime after I graduate?
- (C) I had a great time in your classes.
- (D) Will you remember me?

(5) Volleyball coach: \_\_\_\_\_

Player: My ankle is bothering me a bit.

- (A) What did you say about the referee?
- (B) What time will you come to practice tomorrow?
- (C) Let me give you some advice.
- (D) What's wrong? You seem to be off your game.

第2問: 次の英文(6)~(15)の下線部の意味に最も近いものを、それぞれ(A)~(D)の中から一つずつ選びなさい。

- (6) The scientist was impressed with the diversity of birds in this area.  
(A) behavior  
(B) intelligence  
(C) strength  
(D) variety
- (7) This university attracts a lot of faculty from abroad.  
(A) attention  
(B) funding  
(C) professors  
(D) students
- (8) Although his presentation was very long, we truly enjoyed it.  
(A) gift  
(B) novel  
(C) absence  
(D) talk
- (9) Are the rice farmers receiving sufficient assistance from the government?  
(A) enough  
(B) equivalent  
(C) extraordinary  
(D) financial
- (10) The solar calendar was not accepted universally.  
(A) at first  
(B) in space  
(C) on campus  
(D) without exception

- (11) Our study implies a strong positive effect of the treatment.
- (A) cures
  - (B) provides
  - (C) receives
  - (D) suggests
- (12) Simple houses of the tribe are scattered in the woods.
- (A) are close to
  - (B) are damaged in
  - (C) are packed together in
  - (D) are spread through
- (13) You need to retain the right attitude.
- (A) change
  - (B) keep
  - (C) obtain
  - (D) understand
- (14) The citizens argued against constructing a parking area.
- (A) building
  - (B) destroying
  - (C) guarding
  - (D) selling
- (15) It is said that horses can tell people from one another.
- (A) connect with people
  - (B) distinguish among people
  - (C) learn from people
  - (D) speak to people

第3問: 次の英文(16)~(30)のそれぞれの空欄に入る最も適切なものを(A)~(D)の中から一つずつ選びなさい。

(16) Everyone in the family \_\_\_\_\_ how to feed horses.

- (A) know
- (B) knows
- (C) knowing
- (D) known

(17) The train \_\_\_\_\_ with high school students.

- (A) was packing
- (B) has packed
- (C) was packed
- (D) being packed

(18) I \_\_\_\_\_ my necklace, and I can't find it.

- (A) have lost
- (B) have been losing
- (C) was lost
- (D) am lost

(19) You've been to Germany before, \_\_\_\_\_?

- (A) don't you
- (B) haven't you
- (C) are you
- (D) aren't you

(20) I can't speak Chinese and \_\_\_\_\_ my brother.

- (A) neither can't
- (B) either can't
- (C) neither can
- (D) either can

- (21) Classes are sometimes \_\_\_\_\_ Saturdays.  
(A) held on  
(B) held at  
(C) hold on  
(D) hold at
- (22) Do you know how \_\_\_\_\_ food is left in the refrigerator?  
(A) much  
(B) less  
(C) small  
(D) many
- (23) My friends \_\_\_\_\_ to hear that I got tickets for the Super Bowl.  
(A) excite  
(B) were excite  
(C) were excited  
(D) were exciting
- (24) The woman \_\_\_\_\_ teaches us chemistry comes from India.  
(A) who  
(B) what  
(C) whom  
(D) which
- (25) There is no harm \_\_\_\_\_ the truth.  
(A) to tell  
(B) in telling  
(C) by telling  
(D) to telling

- (26) They have been playing tennis \_\_\_\_\_.
- (A) since two hours
  - (B) two hours ago
  - (C) in two hours
  - (D) for two hours
- (27) I don't know where \_\_\_\_\_ park my car.
- (A) I should
  - (B) should I
  - (C) I was
  - (D) was I
- (28) I couldn't get anyone \_\_\_\_\_ me.
- (A) help
  - (B) helps
  - (C) to help
  - (D) helped
- (29) We look forward to \_\_\_\_\_ your colleagues next week.
- (A) meet
  - (B) meeting
  - (C) have met
  - (D) be meeting
- (30) Our teacher told us that she \_\_\_\_\_ to the U.S. as a child.
- (A) was
  - (B) gone
  - (C) had been
  - (D) is going



第4問: 次の英文を読んで、問い(31)~(40)について、最も適切な答えを(A)~(D)の中から一つずつ選びなさい。

Every year in October, boats with colorful sails race during the city festival in Zamboanga. This city in the southern Philippines is famous for showing a strong Hispanic influence, which dates back to as early as the sixteenth century. This is reflected in the local language called Chavacano.

(31) According to the paragraph, what is reflected in Zamboanga's local language?

- (A) Chavacano
- (B) the sixteenth century
- (C) Hispanic influence
- (D) southern boat races

(32) According to the paragraph, what can you see in Zamboanga during October?

- (A) sails
- (B) Chavacano politicians
- (C) south
- (D) reflections

この部分に掲載されている文章については、  
著作権上の問題から公表することができません。

(33) According to the paragraph, where is Astana located?

- (A) 347 metres from the Ishim River
- (B) in central Kyrgyzstan
- (C) in northern Kazakhstan
- (D) in Mongolia

- (34) According to the paragraph, which statement below best describes Astana?
- (A) It is in a semi-arid steppe region.
  - (B) It is far from the Ishim river.
  - (C) It is the coldest capital in the world.
  - (D) It is at sea level.

If you visit Taiwan, you might see a Formosan Mountain Dog. These small or medium sized dogs are skilful at hunting small animals and are indigenous to Taiwan. Unfortunately, it is very difficult to find a purebred Formosan nowadays. Many Formosan dogs are kept as pets or guard dogs and have crossbred with other kinds of dog. Dr. Sung Yung-hi has urged the government to preserve these animals, because if nothing is done, they may disappear altogether.

- (35) According to the paragraph, how are a lot of crossbred Formosan dogs used?
- (A) as small and medium animals
  - (B) as pets or guard dogs
  - (C) as government animals
  - (D) as Dr. Sung Yung-hi's pets
- (36) According to the paragraph, why has Dr. Sung Yung-hi urged the preservation of Formosan Mountain Dogs?
- (A) Unfortunately, breeding dogs is difficult nowadays.
  - (B) He has urged the government to preserve these animals.
  - (C) Dr. Sung may urge the animals.
  - (D) The Formosan Mountain Dog may disappear altogether.
- (37) According to the paragraph, what are Formosan Mountain Dogs good at?
- (A) producing purebred dogs
  - (B) making hunting tools disappear
  - (C) keeping medium and small guard dogs
  - (D) hunting small animals

この部分に掲載されている文章については、  
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(38) According to the paragraph, what was Angkor Wat dedicated to?

- (A) a Buddhist church
- (B) Lord Vishnu
- (C) a Cambodian palace
- (D) a Hindu-Buddhist temple

(39) According to the paragraph, the national flag of Cambodia shows:

- (A) a Hindu palace
- (B) a kingdom
- (C) Lord Vishnu
- (D) Angkor Wat

(40) According to the paragraph, who made Angkor Wat?

- (A) Cambodia
- (B) UNESCO
- (C) King Suryavarman II
- (D) Lord Vishnu

第5問: 次の英文を読んで、(41)~(50)それぞれの空欄に入る最も適切なものを(A)~(D)の中から一つずつ選びなさい。

Horses were originally wild (41), and humans had to tame or domesticate them. Humans began to domesticate horses around 4000 B.C., and by 3000 B.C. the domestication of horses was widespread. Once horses had been (42), humans could ride them or use them to pull wagons and carriages. Most horses are now domesticated, and only very few live in the wild. The only remaining true (43) horse is Przewalski's horse, which is a separate endangered subspecies living in Mongolia.

Horses' anatomy enables them to run to (44) predators, and they have a well-developed sense of balance and a strong fight-or-flight response. If attacked, a horse will (45) itself. In the wild, horses need to be ready to flee, or run, from predators. Related to this need to flee from (46) is an amazing ability; horses are able to sleep both standing up and lying down.

Female (47), called mares, carry their young for about 11 months, and a young horse, called a foal, can stand and run soon after birth. Most domesticated horses can begin (48) for being ridden, or pulling wagons and carriages, between the ages of two and four. A horse reaches full adult development by age five, and depending on breed and environment, the modern domestic horse has (49) expectancy of 25 to 30 years. The oldest horse on record was born in Manchester, England in 1760, worked as a barge horse, and (50) to the age of 62.

(41)

(A) camels

(B) buffalo

(C) animals

(D) donkeys

(42)

(A) tied up

(B) tamed

(C) freed

(D) led

(43)

- (A) tame
- (B) domesticated
- (C) widespread
- (D) wild

(44)

- (A) escape
- (B) play with
- (C) sense
- (D) search for

(45)

- (A) leave
- (B) separate
- (C) fight
- (D) defend

(46)

- (A) horses
- (B) predators
- (C) wagons
- (D) anatomy

(47)

- (A) humans
- (B) predators
- (C) horses
- (D) animals

(48)

- (A) training
- (B) starting
- (C) running
- (D) pulling

(49)

- (A) a child
- (B) an adult
- (C) a birth
- (D) a life

(50)

- (A) died
- (B) lived
- (C) slept
- (D) stood

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## 小 論 文

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## 小論文試験問題

この問題は論理的な文章能力を問うものです。下記の課題について、600字から800字の間で書きなさい。なお、どのような立場で論じていても採点には影響しません。

### 課題

高校での学びと大学での学びの違いは何でしょうか。その違いについてあなたの考えを書きなさい。