



Admission Tech

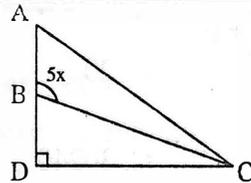
**United International University
(UIU)**

Question Fall 2018

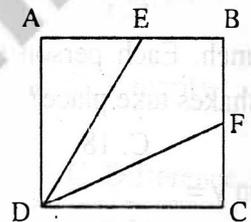


MATHEMATICS:

20 Questions, 20 Marks



- Which of the following could be a value of x , in the diagram above?
A. 10 B. 20 C. 40 D. 50 E. any of the above
- Helpers are needed to prepare for the fete. Each helper can make either 2 large cakes per hour, or 35 small cakes per hour. The kitchen is available for 3 hours and 20 large cakes and 700 small cakes are needed. How many helpers are required?
A. 10 B. 15 C. 20 D. 25 E. 30
- Jo's collection contains US, Indian and British stamps. If the ratio of US to Indian stamps is 5 to 2 and the ratio of Indian to British stamps is 5 to 1, what is the ratio of US to British stamps?
A. 5 : 1 B. 10 : 5 C. 15 : 2 D. 20 : 2 E. 25 : 2
- A 3 by 4 rectangle is inscribed in circle. What is the circumference of the circle?
A. 2.5π B. 3π C. 5π D. 4π E. 10π
- Two sets of 4 consecutive positive integers have exactly one integer in common. The sum of the integers in the set with greater numbers is how much greater than the sum of the integers in the other set?
A. 4 B. 7 C. 8 D. 12 E. it cannot be determined from the information given.
- If $f(x) = (x + 2) / (x-2)$ for all integers except $x=2$, which of the following has the greatest value?
A. $f(-1)$ B. $f(0)$ C. $f(1)$ D. $f(3)$ E. $f(4)$

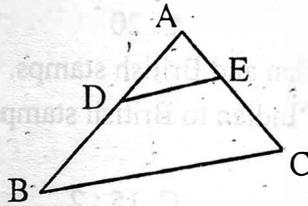


- ABCD is a square of side 3, and E and F are the mid points of sides AB and BC respectively. What is the area of the quadrilateral EBF D?
A. 2.25 B. 3 C. 4 D. 4.5 E. 6
- If $n \neq 0$, which of the following must be greater than n ?
I $2n$ II n^2 III $2 - n$
A. I only B. II only C. I and II only D. II and III only E. None
- After being dropped a certain ball always bounces back to $2/5$ of the height of its previous bounce. After the first bounce it reaches a height of 125 inches. How high. (in inches) will it reach after its fourth bounce?
A. 20 B. 15 C. 8 D. 5 E. 3.2

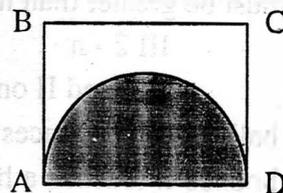




10. n and p are integers greater than 15. n is the square of a number, $75np$ is the cube of a number. The smallest value for $n + p$ is
 A. 14 B. 18 C. 20 D. 30 E. 50
11. $(3 \times 10^4) + (2 \times 10^2) + (4 \times 10) =$
 A. 302400 B. 32400 C. 30240 D. 3240 E. 324
12. Andy solves problems 74 to 125 inclusive in a Math exercise. How many problems does he solve?
 A. 53 B. 52 C. 51 D. 50 E. 49
13. If x and y are integers, and $3x + 2y = 13$, which of the following could be the value of y ?
 A. 0 B. 1 C. 2 D. 3 E. 4



14. In triangle ABC, $AD = DB$, DE is parallel to BC , and the area of triangle ABC is 40. What is the area of triangle ADE?
 A. 10 B. 15 C. 20 D. 30
 E. it cannot be determined from the information given
15. If $n > 0$, which of the following must be true?
 I $n^2 > 1$ II $n - n^2 < 0$ III $2n - 1 > 0$
 A. I only B. II only C. III only D. I and II only E. none
16. If the slope of a line is $\frac{1}{2}$ and the y -intercept is 3, what is the x -intercept of the same line?
 A. 6 B. $\frac{3}{2}$ C. 0 D. $-\frac{2}{3}$ E. -6
17. 6 people meet for a business lunch. Each person shakes hands once with each other person present. How many handshakes take place?
 A. 30 B. 21 C. 18 D. 15 E. 10
18. If $x^2 - y^2 = 55$, and $x - y = 11$, then $y =$
 A. 8 B. 5 C. 3 D. -8 E. -3
19. In a sports club with 30 members, 17 play badminton and 19 play tennis and 2 do not play either. How many members play both badminton and tennis?
 A. 7 B. 8 C. 9 D. 10 E. 11



(figure not to scale)

20. Rectangle ABCD has a perimeter of 26. The half circle with diameter AD has an area of 8π . What is the perimeter of the part of the figure that is not shaded?
 A. $26 + 4\pi$ B. $18 + 8\pi$ C. $18 + 4\pi$ D. $14 + 4\pi$ E. $14 + 2\pi$





English Section :

20 Questions 20 Marks

There are 4 underlined sections in the text below. Select the one which is **wrong**.

1. A no-smoking program has help overweight people reduce their risk of heart attacks or their need for surgery by 63 percent.
A. help B. A C. reduce D. need
2. Since 2001, the company's annual revenue from ticket sales and contributions grown by 85 percent, to \$42.9 million.
A. Since B. grown C. annual D. from
3. For decades the food industry has been known serving up sugary or fat-laden products, promoted with ceaseless advertising.
A. For decades B. has been known C. promoted with D. ceaseless
4. Japan's latitudinal spread, ranging from subtropical in the south to sub-arctic in the north, makes that a wide diversity of flora and fauna.
A. makes that B. latitudinal spread C. subtropical D. wide diversity
5. In 2002, 20 million people in the United States were reported have asthma -- a chronic inflammatory lung disease characterized by wheezing, difficulty breathing, chest tightness and coughing.
A. were reported B. characterized by C. difficulty breathing D. and coughing

Find the **synonym** from the given options:

6. Vigour
A. Strength B. Warmth C. Courage D. Boldness
7. Morose
A. Gloomy B. Annoyed C. Moody D. Desperate
8. Infamy
A. Precarious B. Dishonor C. Integrity D. Glory
9. Distinction
A. Degree B. Diffusion C. Difference D. Disagree
10. Ironic
A. Made of iron B. Disgusting C. Rigid D. Bitter

Read the passage and answer the questions below:

The Tyrannosaurus Rex, also known as T-Rex, was one of the largest land predators to have ever lived. The T-rex could grow to 40 feet in length (a little longer than a school bus) and could stand 13 feet tall at the hips (about three feet taller than a basketball hoop). It lived in what is now western North America and may have even been partly covered in feathers.

The Tyrannosaurus Rex was a fearsome predator with strong jaws and up to 60 teeth. Some of these teeth could grow to be almost a foot long. The T-Rex was a strict carnivore (meat-eater) and hunted other dinosaurs. Scientists aren't sure how fast the T-Rex could run, or, even if it could run at all.





In 1990, a fossil hunter found the most complete skeleton of a Tyrannosaurus Rex ever found! It was sold to a museum for \$8 million dollars, the highest amount ever paid for dinosaur fossils.

11. Compared to a basketball hoop, the Tyrannosaurus Rex was
A. Shorter B. Taller C. Thinner D. Bulkier
12. Which of the following might also be described as a fearsome hunter?
A. sparrow B. your pet hermit crab C. a tiger D. a baby seal
13. Which is NOT true about the tyrannosaurus rex?
A. It ate other dinosaurs.
B. Some of its teeth were a foot long.
C. A skeleton sold for \$8 million dollars.
D. Compared to other land predators, it was actually small.
14. Which of the following statements indicates the author is not sure about a fact?
A. The T-Rex lived in what is now western North America.
B. The T-Rex was a carnivore.
C. The T-Rex may have been partly covered by feathers.
D. The T-rex could grow to 13 feet tall at the hips.
15. The author seems to think the T-Rex skeleton was
A. Expensive B. Ponderous C. Mundane D. Fragile

Choose the correct option

16. Apple Computer has unveiled its new desktop computer design, _____ all disk drives and processors into a flat display less than two inches thick.
A. which includes B. enclosing C. which contains D. which integrates
17. Food is, after all, an important part of Chinese culture and mission controllers say it is important _____ China's space pioneers do not go hungry.
A. to ensure that B. so that C. make sure D. that food is provided for
18. Nearly all the brown bears in the United States _____ in Alaska, which has an estimated 30,000 to 40,000 brown bears, also called grizzlies.
A. are resident B. reside C. live D. inhabit
19. _____ are poor observers of their child's behavior so deviant behavior reaches unmanageable proportions.
A. Parents B. Parents that C. When parents D. If parents
20. By far the most noticeable blemishes on the surface of the Sun _____ sunspots.
A. the B. that are C. are D. in the

Written English

WRITE AN ESSAY ON THE FOLLOWING TOPIC :

“My favorite Childhood Memory “





ANSWERS KEY

SECTION I: English Language

1.A	2.B	3.B	4.A	5.A	6.A	7.A	8.B	9.C	10.D
11.B	12.C	13.A	14.C	15.A	16.D	17.A	18.C	19.A	20.C

SECTION I: Mathematics

1.B	2.A	3.E	4.C	5.D	6.D	7.D	8.E	9.C	10.A
11.C	12.B	13.C	14.A	15.E	16.E	17.D	18.E	19.B	20.C

SECTION -II: Mathematics

- (B) The Marked Angle ABC এটা ত্রিভুজ BDC বাইরের কোণ কারণ আরো 90 ডিগ্রী হতে হবে, এবং কোণ BDC (90) এবং DCB সম্পর্কে যোগফল সমান হতে হবে।
Moreover ABC is not a straight line এবং কম 180 হতে হবে।
অতএব $90 < 5x < 180$ এই সম্পর্ক সন্তুষ্ট যা x এর মান শুধুমাত্র 20
- (A) 20 large cakes will require the equivalent of 10 helpers working for one hour. 700 small cakes will require the equivalent of 20 helpers working for one hour. This means if only one hour were available we would need 30 helpers. But since three hours are available we can use 10 helpers.
- (E) Indian stamps are common to both ratios. Multiply both ratios by factors such that the Indian stamps are represented by the same number.
US : Indian = 5 : 2, and Indian : British = 5 : 1. Multiply the first by 5, and the second by 2.
Now US : Indian = 25 : 10, and Indian : British = 10 : 2
Hence the two ratios can be combined and US : British = 25 : 2
- (C) Draw the diagram. The diagonal of the rectangle is the diameter of the circle. The diagonal is the hypotenuse of a 3:4:5 triangle, and is therefore, 5.
Circumference = $\pi \cdot \text{diameter} = 5\pi$
- (D) চার পরপর পূর্ণসংখ্যার দুইসেট সাধারণ এক পূর্ণসংখ্যা আছে, মিলিত সেট মোট 7, এবং আমরা হিসাবে সেট লিখতে পারেন
Thus,
 $n + (n + 1) + (n + 2) + (n + 3)$ and
 $(n + 3) + (n + 4) + (n + 5) + (n + 6)$
Note that each term in the second set is 3 more than the equivalent term in the first set. Since there are four terms the total of the differences will be $4 \times 3 = 12$
- (D) You can solve this by back solving – substitute the answer choices in the expression and see which gives the greatest value.
A $(-1 + 2) / (-1 - 2) = -2 / -2 = -1$;
B $(0 + 2) / (0 - 2) = 2 / -2 = -1$;
C $(1 + 2) / (1 - 2) = 3 / -1 = -3$;
D $(3 + 2) / (3 - 2) = 5 / 1 = 5$;
E $(4 + 2) / (4 - 2) = 6 / 2 = 3$

