

## ACT

1) 90 students who took ACT scored highest in either of the four sections: math (m), science (s), English (e), or reading (R), in their test. If a person is chosen at random, what are the chances that he/she has not scored highest in the math's section.

A) 30/90

B) 40/90

C) 60/90

D) 80/90

E) 90/90

2) A sports club changed its membership fee for 5 consecutive years. The fees were \$450, \$500, \$550, \$600, and \$750. What was the mean membership fee for the 5 years?

A) \$500

B) \$550

C) \$570

D) \$600

E) \$650

3) Jacobs' raw score on a test is scaled up using a ratio of 4:15. If his raw score was 4 points, his scaled-up score would be 15 points. If his scaled-up score was 315 points, his raw score would have been?

A) 21

B) 84

C) 95

D) 1200

E) 1260

4) If  $ab^2c^3=108$ ,  $bc=6$  and  $a, b, c$  are integers, what could be one value of  $a$ ?

A) 1

B) 2

C)4

D)5

E)7

5) If  $g(x)=2x-1/2x$ , then  $g(x)$  cannot be equal to

A)1

B)2

C)3

D)4

E)5

6)Every year the good shepherd school in a city near Newyork increases its fee transport fee by 8%. If in the year 2015 the transport fee was 2015 the transport fee was \$162 , then what would be the transport fee have been in the year 2014?

A)150

B)151

C)152

D)153

E)154

7)Every year the value of the rare precious store multiplies by 1.5 times . for example if it was valves ay \$100 in year 2016 its value would be \$150 in 2017 . if the store was valued at \$16 in the year 1925, what would have been its value in the year 1929?

A)\$16

B)\$24

C)\$36

D)\$54

E)\$81

8)The price changed for a mobile call is a sum of a flat change of \$0.6 and a variable change of \$0.005 for every second of the call. What would have been the price per call if a call lasted for 2 minutes?

- A)\$0.6
- B)\$0.8
- C)\$1.0
- D)\$1.2
- E)\$1.4

9)As we move from the bottom to top , each ring in an arrangement shown in the figure decreases in diameter and also the width .if the height of the arrangement in inches, how many more rings would be needed to fill the gap shown?

- A)1
- B)2
- C)3
- D)4
- E)5

10)The heights of the 12 students in classroom is given in the table below . The median of the boys is how much more or less than that of girls?

BOYS		GIRLS	
A	48	G	50
B	49	H	48
C	48	I	46
D	50	J	46
E	46	K	49
F	52	L	50

- A)1/2 inch less
- B)1/2 inch more
- C)0 inch less
- D)2 inches less
- E)2 inches more

11)The weight of person who born on 1<sup>st</sup> march 2010. Every year on his birthday and was recorded in the table of the data shown. If y represents the age of the person and w represents the weight , which of the following represents the relationship between the age and weight?

BIRT DATE	WEIGHT
1 <sup>ST</sup> march 2010	
1 <sup>st</sup> march2010	
1 <sup>st</sup> march2010	
1 <sup>st</sup> march2010	
1 <sup>st</sup> march2010	
1 <sup>st</sup> march2010	
1 <sup>st</sup> march2010	

A)

B)

C)

D)

E)

12) If the length of the rectangle is twice its width and the area and perimeter is equal to what is half of its perimeter equal to?

A)9

B)18

C)27

D)36

E)45

13) A Sandtimer is shown in the fig. below with an angles. What is the value of x in degrees?

A)40

B)50

C)60

D)70

E)80

14) The revenue of a company earned from sale of products of four brands A,B,C,D is shown in the pie chart according to their percentage contribution to the total revenue. The angle marked as right angle is wrongly marked. What should be angle have been equal to?

- A)30
- B)54
- C)90
- D)108
- E)120

15)Every maths question got correct on a test is scored two points in every language question got correct is scored 3 points. If there were 35 questions on text and he scored equal points on maths and the language sections how many maths questions did kies get correct?

- A)7
- B)14
- C)21
- D)28
- E)35

16)Within 10 seconds , the speed of the machines making tiny toys increases at a constant rate from 52 toys per second to 92 toys per second , how many toys would the machine have made?

- A)52
- B)92
- C)520
- D)720
- E)920

17)P,Q,R are collinear and T,S do not fall on the line joining P,Q,R. T,Q,S are also collinear. Angle R,Q,S measures twice as much as angle SQP. What is the angle TQR is equal to ?

- A)30
- B)60
- C)90
- D)120
- E)150

18) Which of the following inequalities is valid?

A)  $1/4 < 3/14 < 5/18$

B)  $3/14 < 4/70 < 5/140$

C)  $4/70 < 5/88 < 6/90$

D)  $1/3 < 1/2 < 3/5$

E)  $3/5 < 1/2 < 1/3$

19) In scientific notation  $1400 + 27000 + 310000$  equals

A)  $3.384 \times 10$

B)  $3.384 \times 10^2$

C)  $30384 \times 10^3$

D)  $3.384 \times 10^4$

E)  $3.384 \times 10^5$

20) The isosceles trapezoid PQRS with PS equals to shown below PQ & RS PARALLEL TO EACH OTHER . If the figure is not to scale . then the p angle PQR should be equal to?

A) 20

B) 60

C) 90

D) 120

E) 150

21) On a standardized test, it is observed that 50% of the students get a score above the average score . It is also observed that 68% of those who score above the average also score above a benchmark score . Out of 2,00,000 student's who took the test, how many can one expect to have scored above the benchmark score?

A) 34000

B) 68000

C) 340000

D) 680000

E)1000000

22)IF  $2^{3x}=p$  ,  $3^{3x}=q$  and  $pq =36$  then  $3x =?$

A)1/3

B)2/3

C)4/3

D)5/3

E)6/3

23)- $3x/4(16x^2y+44xy-32y)$  is also equal to

A)- $12x^2y^2-32xy+96xy$

B)- $12x^2y-33xy-24y$

C)- $12x^2y-33xy+24y$

D)- $12x^3y-33x^2y-24xy$

E)- $12x^3y-33x^2y+24xy$

24)The selling price of an article at an auction is observed to be dependent on the no. of participants on the auction and is given by  $700p-p^2$ .what is the minimum number of participants require to get a selling price of at least \$100000?

A)200

B)300

C)400

D)500

E)600

25)A batsman in cricket match hits a ball in different direction of the field and scores his rund. The runs scored by hitting in different directions are distributed in different directions as shown in the circle?

A)4/55

B)1/11

C)3/11

D)2/11

E)30/55

26)Which of the following holds true?

A) $w+x=90-y$

B) $w+x=180+x$

C) $x+y=180-w$

D) $x+w=180+y$

E) $180=x-y-w$

27)In the right angled triangle shown BC measures  $x$  and  $x$  is an integers . The measurements of AC can be multiplied by which of the following to result an unteger?

A)root2

B)root 3

C)2

D)2 root2

E)2 root5

28)The parabola shown in below in the graph of  $y=x^2-5x+6$ . The x intercepts of the parabola are how many units apart?

A)0

B)1

C)2

D)3

E)4

29)If  $(5-4i)(4i+5)=a+bi$  then which of the following is not an integer?

A)AB

B)A/B

C)A

D)B



E)A/B

30)In the cylinder shown , with radius 3 units and height 4 units, solving which of the following gives the measure of the angle shown?

A) $\sin\theta=3/5$

B) $\cos\theta=4/5$

C) $\tan\theta=3/4$

D) $\tan\theta=3/5$

E) $\tan\theta=4/3$

31)The police in a city were trying hard to catch hold any of the members of a aging A of 6 thieves. The gang A got merged with another gang B which had 14 thieves.The city had only these two groups of thieves in a total citizens population of 500000 , if a police randomly caught hold of a citizen what are the chances that the citizens were actually a member of group B of thieves ?

A)6/500000

B)8/500000

C)14/500000

D)20/500000

E)CANNOT BE DETERMINED

32)Which of the fractions is equidistant from  $3/8$  &  $5/12$  on the number line

A) $38/96$

B) $76/96$

C) $1/96$

D) $1/5$

E)NONE

Note: questions 33 to 35 based on the following information.

The government of an arbitrary island country x whose map is shown in fig. plans to build a high and strong wall 20 feet deep in the four direction forming a rectangular bounded secure zone of the length of the outer rectangle is  $10^8$ feet

33)

A)

B)

C)

D)

E)

34)

A)

B)

C)

D)

E)

35)

A)

B)

C)

D)

E)

36) The point  $p(-2.3)$  is a solution to the inequality  $ax+y < 1$  &  $a$  is an integer which of the following graphs would be the representation of the inequality above?

A)

B)

C)

D)

E)

37) The mean of the median and mode of the set  $(5,7,0,1,0)$  equals

A) 0

B)  $\frac{1}{4}$

C)  $\frac{1}{2}$

D)  $\frac{3}{4}$

E) 1

38)  $f(x)=x^2$  and  $g(x)=x+1$  are graphed on the coordinate planes as shown below . which of the following is true?

A)  $F(X)=G(X)$  for some values of  $x$

B)  $f(x)<g(x)$  for all values of  $x$

C)  $f(x)>g(x)$  for all values of  $x$

D)  $f(x)$  not equals to  $g(x)$  for all values of  $x$

E)  $f(x)=-g(x)$  for all values of  $x$

39) what is the slope of the line perpendicular to AB?

a)  $-\frac{5}{5}$

b) 0

c)  $\frac{4}{5}$

d)  $-\frac{5}{2}$

e)  $\frac{2}{5}$

40) point a is reflected over the x axis first and then over the y axis . What is the coordinate of the new point A?

A) (0,-5)

B) (5,0)

C) (0,5)

D) (-5,0)

E) (0,0)

41) Which of the following is true?

A) The area of the triangle  $ACA^1 <$  area of the triangle  $ABA^1$

B)The area of the triangle  $ACA^1 >$  the area of the triangle  $ABA^1$

C)The area of the triangle  $ACA^1 =$ The area of the triangle  $ABA^1$

D)The area of the triangles  $ACA^1$  ,  $ABA^1$  cannot be compared as such

E)the perimeters of the two triangles  $ACA^1$  and  $ABA^1$  are equal

42)if  $f(x)=x+1$  and  $g(x)=1-x$  then  $f(g(1))=$

A)-1

B)0

C)1

D)2

E)3

43)If the equation  $2x+3xy/4$  gives the perimeter of the two dimensional irregular fig. then doubling the value of x is

A)doubles the perimeter

B)halves the perimeter

C)makes no change in perimeter

D)doubles the area

E)halves the area

44)The midpoint of AB is how far from the origin?

A)1

B)root 2

C)root 3

D)2

E)root 5

45)matrices question

46)A car fills it fuel tank by 20 litres a diesel to increase the fuel from  $2/5$  the tanks capacity to 80% of the tanks capacity. What is the half of the capacity of the tank equal to ?

A)10

B)20

C)25

D)40

E)50

47)A bag has only green, red ,blue colored marbles are  $\frac{13}{125}$  of the total number of marbles. The red colored marbles are  $\frac{15}{47}$  of the total number of marbles. If the marbles is shown in random from the bag which marble is atleast likely to be?

A)green colored

B)blue colored

C)red colored

D)either colored

E)cannot be determined

48) $2\sqrt{\frac{2}{3}} + 3\sqrt{\frac{3}{2}}$  =

A) $\frac{7}{3}\sqrt{2}$

B) $\sqrt{2}$

C) $\sqrt{3}$

D) $\frac{3\sqrt{2}}{7}$

E) $2\sqrt{2} + 3\sqrt{3} + 3\sqrt{2}$

49)Shaded region represents solution set of which the following?

A)

B)

C)

D)

E)

50)Water tank has length , width and height of 12feet , 10feet ,6feet respectively. If water tank A is initially filled completely with water.

