P(a) = F.O/T.O

1) The probability of throwing more than 5 in a single throw of an ordinary die is:

1. 0.17
2. 1
3. 0.83

d)0

1,2,3,4,5,6 = 1 /6=0.17

2) There are six cards in which it has two king cards. all cards are turned down and two cards are opened. a) What is the possibility to get at least one king. b) What is the possibility to get two kings.

6 cards = 2 king cards

2king 4other

a)((2c1\*4c1)+(2c2\*4c0))/6c2

(2\*4)+(1\*1)/(6\*5/2\*1)

=8+1/15=9/15=3/5

b)2c2/6c2=1/15

3) If the outcome is an odd number when a dice is rolled, then calculate the probability that it is a prime number.

1. 1/2
2. 2/3
3. 1/6
4. 5/6

1,2,3,4,5,6=>1,3,5=> 2 /3

4) A bag contains 20 discs numbered 1 to 20. A disc is drawn from the bag. The probability that the number on it is a multiple of 3 is:

1. 1/5
2. 2/5
3. 5/10
4. 3/10

3,6,9,12,15,18=>6/20=>3/10

5) Two guys are tossing coin with a bet of $1 for each game. After some tosses., one guy earned $3 while the other won three times. How many games do they play.

a) 6 b)7 c)8 d)9

Win - +1

Lose - -1

A

1,2,3 = $0

B

4 – 1

5 – 1

6 - 1

A

1 2 3 4 5 6 = $3

B

7=1

8=1

9=1

6) A Jar contains 18 balls. 3 blue balls are removed from the jar and not replaced.Now the probability of getting a blue ball is 1/5 then how many blue balls the jar contains initially ?

18 balls

3 blue balls

18 – 3 = 15 balls

P(a)=F.O/T.O

1/5=Getting blue ball /15

F.O=3blue balls+3=6

7)Two dice with the face marked 1, 2, 3, 4, 5, 6 are thrown simultaneously and the points on the dice are multiplied together. The probability that product Is 12 Is:

1. None of the mentioned options
2. 4/36
3. 12/36
4. 5/36

(2,6)(3,4)(4,3)(6,2)=>4/36

8) What is the chance of getting the sum of at least 7 in a single throw of two dices together?

1. 17/36
2. 5/12
3. 7/12
4. 1/4

(1,6)-1

(2,5)(2,6)=2

(3,4)(3,5)(3,6)=3

(4,3)(4,4)(4,5)(4,6)=4

Atleast 7 = 1+2+3+4+5+6=21

21/36=7/12

(1,1)(1,2)(1,3)(1,4)(1,5)(1,6)

(2,1)(2,2)(2,3)(2,4)(2,5)(2,6)

(3,1)(3,2)……………………..(3,6)

(4,1)…………………………….(4,6)

(5,1)………………………………..(5,6)

(6,1)………………………………..(6,6)

9) There are 1000 junior and 800 senior students in a class.And there are 60 sibling pairs where each pair has 1 junior and 1 senior. One student is chosen from senior and 1 from junior randomly.What is the probability that the two selected students are from a sibling pair?

a)120/80000 b)714/80000 c)526/80000

d)256/80000

1000 J 800 S

60 Sibiling = 120 students

1st pair = SJ1 SS1

2nd pair = SJ2 SS2

Total outcome = 800c1 \* 1000c1

Favou.Out = 120c2

120c2/(800c1\*1000c1)

=>((120\*119)/(2\*1))/(800\*1000)

=>7140/800000=>714/80000

10)A shopkeeper has 13 washing machine out of which 5 are defective.A customer buys 3 washing machine,what is the probability that exactly one machine is defective?

a)1/20 b)1/5 c)70/143 d)35/143

13 machines

5 – defective 8-non defective

* (5c1\*8c2) /13c3
* (5\*28)/((13\*12\*11)/(3\*2\*1))
* 70/143

(or)

((5c1\*8c2) + (5c2\*8c1) + (5c3\*8c0))/13c3

11) A and B play a game of dice between them. The dice consists of colors on their faces instead of numbers. A wins if both dice show same color. B wins if both dice show different colors. One dice consists of 1 red and 5 blue. What must be the color in the faces of other dice.(i.e how many blue and how many red?). Chances of winning for A and B are even

a) R B B B B B

b)R R B B B B

C)R R R B B B

D)R R R R B B

2 Dice

First dice – R B B B B B

Second dice - ?

A wins – same color

B wins – different color

Total possibility = 36

A=18 B=18

R B B B B B

R R R B B B

(R,R) (R,R) (R,R) (R,B)(R,B)(R,B) – A=3 B=3

(B,R)(B,R)(B,R)(B,B)(B,B)(B,B) – A=3 B=3

# 12) A quiz has one multiple-choice questions with the answers choices a,b,c and two true/false questions. What is the probablity of answering all the questions right by guessing?

# a)1/5 b)1/4 c)1/3 d)1/12

# 3 questions – mcq,2t/f

# MULTIPLE CHOICE

# A,B,C = 3

# P(A) = 1/3

# TRUE/FALSE

# T/F = 2

# P(A) = ½

# TRUE/FALSE

# T/F=2

# P(A)=1/2

# 1/3\*1/2\*1/2=1/12

# 13) Ravi has a bag full of 10 nestle and 5 cadbury chocolates. out of these, he draws two chocolates. what is the probability that he would get at least one nestle chocolate?

# a)19/21 b)3/7 c)2/21 d)1/3

# 10-NESTLE 5-CADBURY =>15

# TOTAL OUTCOME = 15c2

# Favourable outcome = (10c1\*5c1)+(10c2\*5c0) = (10\*5)+(45\*1)=50+45=95

# P(a)=95/15c2=19/21

# Ratio and Proportion

1. The daily wages of Ramu, Raju and Rajesh are in the ratio of 2 : 3 : 4. If their salaries are increased by 20%, 30% and 15% respectively then Raju's salary will be increased by Rs. 120. What was the salary of Ramu initially?
2. Rs. 200
3. Rs. 800/3
4. Rs. 400/3
5. Rs. 400

# Ramu:Raju:Rajesh

# 2:3:4

# 2x,3x,4x

# 3x\*30/100=9x/10

# 3x+9x/10 = 39x/10

# 39x/10=3x+120

# X=133.3

# 2\*x=266.6

# (or)

# 30% 0f x=120

# X=120\*100/30

# X=400

# I.Ramu:I.Raju=

X:400=2:3

x/400=2/3

x=800/3

2) Rs. 1,000 is to be divided as incentives among three best employees in the firm such that Ekat receives twice as much as Ajay, who receives one-fifth as much as Rahul. How much money did Rahul receive?

1. Rs. 625
2. Rs. 325
3. Rs. 780
4. Rs. 480

E+A+R=1000

E=2A=>2\*1/5R=2/5R

A=1/5R

2/5R+1/5R+R=1000

(2+1+5)R/5=1000

8R=5000

R=5000/8=625

3) If Rs. 1,360 have been divided among A, B, C such that A gets (2/3)rd of what B gets and B gets (1/4)th of what C gets, then B's share is:

a)Rs. 160 b)Rs. 320 c)Rs. 240 d)Rs. 120

A+B+C=1360

A=(2/3)B

B=(1/4)C=>1C=4B=>C=4B

B=?

(2/3)B+B+4B=1360

(2B+3B+12B) =1360\*3

17B=4080

B=4080/17=240

4) The ratio of Radii of two circles is 3:4. Find the ratio of their areas.

1. 9:16
2. 9:5 c)9:5 d)9:13

Area of circle=PI\*R^2

A1/A2=PI\*3^2/PI\*4^2=9/16

9:16

5) Two friends bought two bicycles whose prices were in the ratio of 1 : 5 if they sold them at a loss of 10%, the difference of the money earned by them was Rs. 3600. What was the cost price of the costlier cycle?

1. Rs.6500
2. Rs.5000
3. Rs.5500
4. Rs.6000

1:5

1000:5000

C.P of costlier = 5000

S.P of costlier = x

90 x

100 5000

X= 4500

900

Ratio

1:5

1x,5x

4x=3600

X=900

1x,5x=>1\*900,5\*900=>900,4500

X=4500

90 4500

100 x

X=4500\*100/90=5000

C.p of costlier cycle 5000

C.P=1000 C.p =5000

6) A, B, C are 3 girls and there are 770 Apples. For every 4 Apples, A takes,B takes 3. For every 6 Apples A takes, C takes 7 Apples?

A = X

A + B + C = 770

X + 3x/4 + 7x/6 = 770

(12X+9X+14x)/12=770

35x=770\*12

X=770\*12/35=264

B = (3\*264)/4=198

C = (7\*264)/6=308

7) 3 persons invested rs.36000.raj and salim has 5:4 ratio and salim and rajesh has 8:9 ratio. what is the amount got by rajesh?

a)12000 b)4000 c)5000 d)8000

Raj + Salim + Rajesh = 36000

R:S=5:4

S:Ra=8:9

R : S : Ra

5 4 4

8 8 9

40 : 32 : 36=>10:8:9

10x,8x,9x

10x+8x+9x=36000

27x=36000

X=36000/27

9x=9\*36000/27=12000

8) The ratio of the lengths of the respective diagonals of two squares is 2:1. Find the ratio of their areas.

1. 5:4
2. 4:1
3. 5:2
4. 4:3

2:1

2x,1x

Diagonal = sqrt(2)\*a

2x = sqrt(2)\*a

2x/Sqrt(2)=a –> Side of A1

Diagonal = sqrt(2)\*a

1x=sqrt(2)\*a

1x/sqrt(2)=a ->Side of A2

A1/A2 = (2x/sqrt(2))^2)/(1x/sqrt(2))^2

(4x^2/2)/(1x^2/2)

>=>4:1

9) a sum of rs 20706 is distributed amongst a b and c. a gets 10/123 of what b and c got together and c gets 1/10 of what a and b got together c's share is (approx)?

a)1782.3 b)1885.0 c)1882.4 d)1456.8

A+B+C=20706

A=10/123(B+C)

C=(1/10)(A+B)=>10C=1(A+B)=>10C/1=A+B=>10C=A+B

C=?

10C+C=20706

11C=20706

C=20706/11=1882.4

10) Find the ratio of the distance covered by a car and a cyclist when it is given that the car moves for 1.5hrs at 30 km/hr and cyclist moves for 1hr at 25km/hr?

a)6:5 b)9:5 c)5:2 d)5:1

D=S\*T

Car

T=1.5hrs

S=30km/hr

D = 30\*1.5 = 45km

Cyclist

T=1hr

S=25km/hr

D=S\*T=25\*1=25km

Car : cyclist

45 : 25=>9:5