Q17

considering 3 available space as 1 bot block we get total 8 blacks in which 7 blocks are same i.e. filled spaces.

Prob Required Probability = 8C, = 8 × 872/ 1 5 15 ST-0 - (1107) 9

3.0 = (11) 9

to whiledown odf

PIFTIN + PCENTY 027 Let, A be probability of buying a second hand car and B be the probability of buying a japanese car.

(riven, P (A'MB') = 0.55 = 1-P(AUB) and P(A) = 0.25 , P(B) = 0.3

PLANB) = PLAUB) - PLAUB) = 0.25 + 0.3 11+10.45 0.55 - 0.45 P(ANB) = 0.10

037 Let, P(s) be the probability that students take spanish larguage . D. T. Q

P(s) be the probability of and P(F) in P(F) = 0.15 inven, P(F) = 0.15Griven.

P (SUF) Z O.4 P (SNF) = P(S) + P(F) - P(SUF) Now,

= 0.35+0.15 - 0.4

P (SMf) = 0.1

 $P(F/S) = \frac{P(F \cap S)}{P(S)} = \frac{0.1}{0.35} = \frac{2}{7}$

Let P(H) be the probability of hard exam and P(E) be 247 the probability of easy exerm.

(river, P(H) = 0.8 , P(E) = 0.7 P(F) be probability of difficult first question. and, P(F/4) = 0.9 and P(F/E) = 0.15

P(F/H) = P(FNH) and P(F/E) = P(FNE)
P(H)

p(FNH) = 0.72 and p(FNE) = 0.03

box nos box box P(F) = P(FNH) + P(FNE)
=100.72 + 0.03 dedorg and A 151 (15) B be the prebability of 137,102 a jopanese car.

P(H/F) = P(H) × P(F/H) (A) A)

P(H) × P(F/H) + P(E) × P(F/E)

(90 = 19 = 0.8 × 0.9 24 00=72 + 0.03 (A)9 = (20 A)9 = 24 4.0 - 22.0

01.0 = (80A)9

Q57 Sample space with one boy and two girls. B3> Let, P(1) be the probability that

A.T.Q.

A.T. a.

Probability of given event = $\frac{3c_1}{3c_1+3c_2+3c_3} = \frac{3}{7}$ (AUZ) 9 - (ES) + P(F) - P(SUF)

F 0 - 21.0 128.0 ..

4-0 = (7M20 9 $\frac{1}{4} = \frac{1.0}{200} = \frac{(2000)}{(200)} = \frac{(2000)}{(200)}$

```
067 p: even number
        q: odd number dies boold moils moons trailed J (ED)
                          osperite most remost for all
   A. T. a.
           10c5 p5q5 = 2×10c4 p4q6
       3201 (100) 32 4200 (1000 of final to philidodois (10
      252 p = 420 C1-p)
       100 (p)= 5/8
11 = 1 = 1 = 3

11 = 1 = 3

12 = 3
For no event no. = 10co po q to = 1 x 1x (3) 10
                                  = \left(\frac{3}{8}\right)^{10}
                               Quo> mean -texistence 1 = 40 m
                     A CI wisdoner of resistor) = 43 a
077
                                     P(E) = 0.6
     E Pasing Examination
                             then
     F: Failing Examination = (21(5) P(F.) = 0.4
     Probability that 6 cadidates, at least 4 passed examination is =
             6Cy (0.614(0.412 + 6C5(0.6)5 + 0.4) + 6C60.6)6(0.4)0
             = 0.824256ban tes 18 & Elimit example (11)
       ti skill mount thank grind formed to at the it
       E: Hilding targetsuccessfully P(E)=1 (608) 1 (608) 9
 Q87
        E: Failure in hitting target P(F) = 4
   Probability of hitting tenget at least twice = 1- [5co (+) (4)5
(ロンエ) 9 - (ロンエ) 9 - (ロンエンエー) 9 - (10.82 N 2 co. 1) 9
T= 1 (5/2) - 1 (5/2) 1-1
                                    = 0.26272
    1-0.0228-11 0228
```

Hr36 0 =

E: Patient recovers from blood diesease p(E) = 0.4 500 F: Do not recover from disease P(F) = 0.6 Prid notice of sping got Prid a> Probability at least 10 survive = "50,00.4)" (0.4)" (0.6)"

+ 150,00.4)" (0.6)"

+ 150,00.4)" (0.6)" + 15C14 (0.4) 13 (0.6) 2 + 15C14 (0.4) 14 (0.6) = 0.0338 ()> Probability that exactly 5 survive = 15 (0.4)5 (0.6)10 = 0.1859 al (&) = Q10> mean resistance x = 40 r 5 = 2 A n Cresistance of resistor) = 43 12 $\frac{Z}{\sqrt{5}} = \frac{N-H}{\sqrt{5}} = \frac{43-40}{\sqrt{2}} = 1.5$ P (n >43) = P(2 > 1.5) = 1-P(2 × 15) = 0.0666 e, Required percentanger, = 10,0668 × 100 = 6.68 (10.0) (2.0) 10 (20.0) (2.0) 10 + - (10.0) + (2.0) 20 <u > Diameter is N1 = 2.99 and 3 N2 = 3701 limits Re No. of ball bearing having dimeter between n. & nz is P (2.93 < n < 3.01) = Hilling ingebouccessing P(E;) 4 Now, $\frac{2}{2} = \frac{3 - 2.99}{3 - 2.99}$ $\frac{2}{0.005} = \frac{3}{0.005} = \frac{3$ ((a) (b) (b) (c) -1 = cond + dead 17 = 300 3.01-31/1/2 20 yfillidodor9 P(2.99 < n < 3.01) = P(-2 < 2 < 2) = P(z < 2) - P(z < 2)= 1-P(2>2) - P(2 2-1) 1-0.0228-0-0228

- 0.9544

$$\mu = 40$$
, $\epsilon = 6$ and $\rho (z < p) = 0.45$

From table it is found that $\rho = -0.13$

$$P = \frac{N-H}{5}$$

$$-0.13 = \frac{N-40}{60}$$

$$N = 39.22$$

Q18) T: Gretting true
$$P(T) = \frac{1}{2}$$
 Properties F: Gretting False and $P(F) = \frac{1}{2}$

Probability of getting all correct questions =
$$\left(\frac{1}{2}\right)^{10} = \frac{1}{2024}$$

Q 14) T: Getting true,
$$\rho(T) = \frac{1}{2}$$

F: Getting false $\rho(F) = \frac{1}{2}$

Probability of getting at least 7 out of 10 correct =
$$\frac{1}{10} \frac{10}{(3 + 10)^2} \frac{(\frac{1}{2})^3}{(\frac{1}{2})^3}$$

= $\frac{10}{(2)} \frac{(\frac{1}{2})^3}{(\frac{1}{2})^4} + \frac{10}{(2)} \frac{(\frac{1}{2})^4}{(\frac{1}{2})^5} + \frac{10}{(2)} \frac{(\frac{1}{2})^5}{(\frac{1}{2})^5}$

Q157 A.T.Q. Required probability =
$$\frac{5c_2}{30c_2} = \frac{5!}{\frac{3!2!}{2!28!}} = \frac{10}{15 \times 29} = \left[\frac{2}{87}\right]$$

QLG> A.T.Q Required probability =
$$\frac{1-25}{30} \times \frac{24}{29} = \boxed{0.31}$$

Q 17>

	2 1 - 1 1 0 1 1 12 13 1 1 1000 llad	Scropped
n	-2 -1 0 1 2 3 irond llad	barinas.
60.1	0 th [15 1 0 2 1 1 1	

Since

0.1+k+0.2+2k+0x3+k=1,11 bound if 4 olded ment

$$M = \frac{-0.2 - k + 2k + 0.6 + 3k}{$} = \frac{10.8}{}$$

$$G^{2} = \frac{\{\{\{p_{1},x_{1}\}^{2} - \{M\}\}^{2}\}}{\{\{p_{1},y_{1}\}^{2} - \{0,64\}\}} = \frac{\{\{p_{1},y_{1}\}^{2} - \{M\}\}^{2}}{\{\{p_{1},y_{1}\}^{2} - \{0,64\}\}} = \frac{\{\{p_{1},y_{1}\}^{2} - \{M\}\}^{2}\}}{\{\{p_{1},y_{1}\}^{2} - \{M\}\}} = \frac{\{\{p_{1},y_{1}\}^{2} - \{M\}\}^{2}}{\{\{p_{1},y_{1}\}^{2} - \{M\}\}}} = \frac{\{\{p_{1},y_{1}\}^{2} - \{M\}\}}{\{\{p_{1},y_{1}\}^{2} - \{M\}\}}} = \frac{\{\{p_{1},y_{1}\}^{2} - \{M\}}{\{\{p_{1},y_{1}\}^{2} - \{M\}\}}} = \frac{\{\{$$

(3) 1

Probability of gotting all cornect constions = (2) = bottons of 28> PATA < 810

$$N = 3$$

$$P = \frac{2}{6} = \frac{3}{3} \quad \frac{1}{5} = (7)9 \quad \text{and gather} : P \qquad (A1)$$

$$Q = \frac{2}{3} \quad \frac{1}{5} = (4)9 \quad \text{and gather} \quad 7$$

in the mean = $nP = \frac{3 \times \frac{1}{3}}{3} = \frac{2}{3}$ $6 = nPq = \frac{3 \times \frac{1}{3} \times \frac{2}{3}}{3} = \frac{2}{3}$

019)
$$\mu = 8 \times \frac{1}{8} + 12 \times \frac{1}{6} + 16 \times \frac{3}{8} + 20 \times \frac{1}{4} + 24 \times \frac{1}{12}$$

$$\int_{0}^{1} 6n(1-n) dn = \left[3n^{2} - 2n^{3}\right]_{0}^{1}$$

$$= \int_{0}^{1} (1-n) dn = \left[3n^{2} - 2n^{3}\right]_{0}^{1}$$

$$= \int_{0}^{1} (1-n) dn = \int_{0$$

Mence of is a probability density function

Now, "
$$\begin{aligned}
\lambda &= \int_{0}^{2} x \left(\frac{1}{2} x^{2} \right) dx &= \int_{0}^{2} x \left($$

$$6^{2} = \int_{0}^{1} (n^{2} + 1 - n)^{2} (6n (1-n)^{2}) dn$$

$$= \int_{0}^{1} (n^{2} + 1 - n) (6n - 6n^{2}) dn$$

$$= \int_{0}^{1} (6n^{3} - 6n^{4} + 3n - \frac{3}{2}n^{2} - 6n^{2} + 6n^{8}) dn$$

20

0217

1-			as the same	***
1	n:	0	7	2
	p(n):	48C2 -188 52C2 -188	$\frac{u_{c_1} \times ^{48}c_i}{5_{2c_2}} = \frac{32}{221}$	52C2 = 221

(22)

n:	0 0	1-11-12-22	., , 2
PCN):	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	$3 \times \frac{3}{8} \times \frac{5}{7} \times \frac{4}{6} = \frac{15}{28}$	3×5×2×5=15

Q23> E: Chance of suffering P(E) = 0.20

F: Chance of not suffering P(F) = 0.80

A. T.Q.

Required Probability =
$${}^{6}C_{4}(\frac{1}{5})^{4}(\frac{4}{5})^{2} + {}^{6}C_{5}(\frac{1}{5})^{5}(\frac{4}{5})^{4} + {}^{6}C_{6}(\frac{1}{5})^{6}(\frac{4}{5})^{6}$$

$$= \frac{53}{3125} \text{ Any}$$

(027 0) Given

Q25 E: detective pen " " P(E) = 0.1-10 m3 = (m)? F: Non-defective pen P(F) = 0.9 1) Required probability = 6(2(5) (5) = 0.24576 Required Probability = 12C2 (10) (10) 10 21 2 20001 ii > Required Probability = 1 - 12 Co (10) (10) 12 - 12 Co (10) (10) 12 iii > Required Probability = 12co (to) (5) E: Strike the target $P(E) = \frac{1}{5}$ Q24> F: didn't strike the torget P(F) = 4 i> Required probability = 6(2(5)2(4)2 = 0.24576 ii > Required Probability = 1 - 6 Co (1) 6 - 16 C1 (1) (4) 5 = 0.34464 Q26>

Q26)

$$350$$
 are desired to pay

Area under curve = $\frac{350}{10000} = 0.035$

from table, $z = -1.81$

Now, $\frac{1}{80} + 1.81 = \frac{x - 400}{80}$

Q27 07 Given Area = 0.3770 Britishes to smooth 3 (800) 5 chance of vot gulling : Z = ± 1,16 () (b) (b) Area = 0.8621 (b) poo = y Hildoday 9 bar wpar

Z = 1.09 GA EE =

422>

```
м=1, «= = 3 300 0 = (11.6 > = ) 9
Q 287
             a7 Now, Z, = 3.43-1 = 0.81
                                                      Z_2 = \frac{6 \cdot 10^{-1}}{3} = 1.73^{-10} \cdot \frac{11^{-10}}{3} = 3
                          P (0.81 < Z < 1.73) = 0.4582 - 0.2910 - 0.9
             b) Mere,
                                               z_1 = -\frac{1.43-1}{3.84000} = -0.81
                                                                                                                                             mg 84 = 4 (080)
                                                    z_2 = \frac{6.19 - 1}{3} = 1.73
                           P(-0.81 < Z < 1.83) = 0.2810 + 0.4582
                                                          8210 = 8017492 20 = (155) 9
                          Now H=60, 812 5 29 lown = 60
                                                        2 = \frac{n-H}{6} = 0

in percentage = 50.1. 10

((<\frac{1}{2}) = 0.0 = ((<\frac{1}{2}) = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 0.0 = 
      029) H= 14 ES = 550 = 2.5
                   a > z_1 = \frac{12-14}{2.5} = -0.8
                                                                                                                2 5 F 3 , 8 = K (132)
                             Z_2 = \frac{15-14}{2.5} = 0.4
                     P(-0.8 < Z < 0.4) = 0.2881 + 0.1554
                                                                               = 0.44428860 = (225) q
                     re quired no. of students = 1000×0.444 = 444
                  P (2>1.6) = 0.0543 20.055
                                       (2>1.6) = 0.0543 \(\approx 0.055\)

Vequired students = 1000 \(\approx 0.055 = 55\)
                  e> 2 = 8-14 = -2.4
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P (22-2.4) = 0.008 required students = 1000 × 0.008 = 8 d> z = 16-14 = 0.857. P(z=0.8) = 0.116 × 1000 = 116

required Student = 0.116 × 1000 = 116 $6^2 = 0.018m \Rightarrow 6 = 0.1$ 030> H= 1.9 gm 25 = 6:10 -7 = 62 $Z = \frac{2 - 1.9}{\frac{1}{10} \sqrt{10}} = \frac{1}{01050} = (86.1 > 5 > 180 -)9$ P (271) = 0.5 - 6,34,13 = 0.159 nence required enevolops = 1000 x 0.159 = 159 $Z = \frac{2 \cdot 1 - 1 \cdot 9}{0 \cdot 1} = \frac{2}{2}$ 117 P(z>2) = 0.5 - 0.4772 200.023 required energlaps = 1000×0.023 = 23 MI = 4 (250) 4> 21 = 12-14 - - 08 Q81> H=8 , 6=2 12.0 = 41-51 = aZ Z = 42-8 = 2 2 = 210+18350 = (120> = > 8.0-)9 P (2 42) = 0.9772 required no of pairs = 0.9772 × 5000 = 4886 12121-

Q32> H = 151, G = 15, $Z_1 = -2.06$ $Y_1 = 0.266$ $P(-2.06 \angle Z \angle 0.266) = 0.4803 + 0.1026$ $P(-2.06 \angle Z \angle 0.266) = 0.5829$ $P(-2.06 \angle Z \angle 0.266) = 0.5829$

67 2 = 8th = - 24

```
Q33> x = 401. , 5 = 101.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8367 According to quistion -
                                                                 α> = 50-40 = 1

1.10 = 11212b πο προκε 16/14 41-9) 9
                                                                                                                                      P (2>1) = 0.5 - 0.3413
                                                                                                                                                                                                                                                                 = 0.1587
                                                                                                                                                                                                                                    500 x 0.1587 = 7 9.35 $ 179 gailestes = 3
                                                                                                                                                                                                                                                                                                                  Ez = sedending was Th. - PIEJ = 4
                                                                      b> Area under curve = 350 = 0.7
                                                                                                                                                       corresponding = z (value = -0.5
                                                                      \frac{d^{2}x^{2}}{d^{2}x^{2}} = (\sqrt{n})^{\frac{1}{2}} = \frac{\pi - 40}{(10\pi m)} \text{ most number den } 41)q
M = 25 - 1.
                                                                                                                           Z = 60-40 = 2
                                                                                                                                                             p(272) = 0.5 - 0.4772 = 0.0228
                                                                                                                                                                              Now, 0.228 × 500 = 11.4 2 11, 3016362 = 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  II am jailestes = 3
                                                                                                                                                                                                                                                                                                                                                                                                                                         Ez = selecting one III
                     Q34) M = 65 , 6 = 5
                                                                                                    Now, np = 65 \Rightarrow npq = 25 \Rightarrow 13 
                                                                                                       \frac{1}{3!} \cdot \frac{1}{7!} \cdot \frac{1}{9!} \times \frac{1}{9!} \cdot \frac{1}{9!} \times \frac{1}{9!} 
                                                                                                                                                                                               p= god more than 70 = 0.1587
                                                                                                                                                                                           q = got local than 70 = 0.8413
                                                                                                                                                                                                           P(n=2)= 3c2 x (0.1587)2 (0.8413)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120 = 10) g
                                                                                                                                                                                                                                                                                                                                       = 0.06357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200 = (a/a)q
                                                                                                 \rho = \frac{1}{2}, q = \frac{1}{2}
                                                                                                                       P = \frac{1}{2} + \frac{4}{10} \frac{7}{10} = \frac{10}{2} \cdot \frac{10}{2}
             Q357
                                                                                                                      2 44
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Q36> According to question -1 (Both Bulbs chasen are defective = 5 × 41 = 27 P(271) = 0.5 - 0 2418

(37)
$$E_1 = \text{selecting urn } \underline{\Gamma} \Rightarrow P(E_1) = \frac{1}{2}$$

$$E_2 = \text{selecting urn } \underline{\Gamma} \Rightarrow P(E_2) = \frac{1}{2}$$

PC getting white ball from urn I) = P(A/E1) = 3 P (getting white ball from urn II) = P(A/EI) = 5/11

P(it was drawn from urn I) = $P(E_1/A) = \frac{1/2 \times 3/4}{1/2 \times \frac{3}{7} + \frac{1}{2} \times \frac{5}{11}}$

P(272) : 05-0 4772 = 0.0228 E, = selecting urn I A = ball drawn is red. 038> Ez = selecting urn II Ez = selecting urn III

 $P(A/E_1) = \frac{6}{10}$, $P(A/E_2) = \frac{4}{10}$, $P(A/E_3) = \frac{5}{10}$ Now,

> According to questions, P(E, IA) = 1/3 × 6/10 1/3 × 6/10+ 1/3× 4+ 1/3× 5/10

> > F 0 6 6 3 5 7

1881.0 : 01 mode =
$$\frac{6}{15} = \frac{2}{5}$$
 And anoth

0357 P=1/2 , q=1/2

AP. P(A) = 0.25, D= défective bolts 039> p (B)=0.35) [B] (C) (C) (C) (C)

P(D/A) = 0.05

(b) (b) P(0/B) = 0.04

p(0/8) = 0.02

$$p(B/D) = \frac{6960.04 \times 0.35}{0.05 \times 0.25 + 0.04 \times 0.35}$$

$$= \frac{140}{125 + 140 + 80}$$

$$= \frac{28}{69}$$

Q 40) Required Probability =
$$\frac{5}{30} \times \frac{25}{29} = + \frac{25}{30} \times \frac{5}{29} + \frac{5}{30} \times \frac{4}{29}$$

$$= \frac{9}{29} \text{ Aw}$$

Q41>
$$P(H) = \frac{1}{2}$$
, $P(T) = \frac{1}{2}$

Required Probability =
$${}^{12}C_7 \left(\frac{1}{2}\right)^7 \left(\frac{1}{2}\right)^3$$

= $\frac{99}{128}$