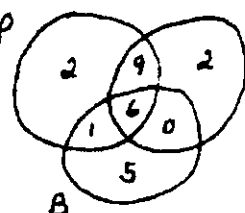


1)  $n = 25$
 answer: 2 C

2) ${}_3C_2 p^2(1-p) = 3p^2(1-p) = 3p^2 - 3p^3$
 answer: D

3) $\frac{11!}{2!2!} = 9,979,200$ answer: C

4) $1 - P(\text{none rec. x}) = 1 - .3^3 = 1 - .027 = .973$
 answer: D

5) $P(\text{Nancy wins}) = \frac{7}{12}$, $P(\text{George wins}) = \frac{5}{12}$
 answer: E

6)

x	1	2	3	4
P(x)	.4	.3	.2	.1

 $E(x) = \sum x \cdot P(x) = .4 + .6 + .6 + .4 = 2$
 answer: B

7) $1 - \frac{364}{365} \cdot \frac{363}{365} \cdot \frac{362}{365} \cdot \frac{361}{365} \cdot \frac{360}{365} = .960$
 answer: C

8) $\left. \begin{matrix} \text{radius inner } \theta = 1 \\ \text{radius outer } \theta = 7 \end{matrix} \right\} P(\text{hit}) = \frac{\pi(1)^2}{\pi(7)^2} = \frac{1}{49}$
 answer: B

9) $P(x=0) = \binom{20}{0} (.18)^0 (.82)^{20} = .019$
 answer: E

10) $P(\text{red}) = \frac{1}{3} \cdot \frac{1}{4} + \frac{1}{3} \cdot \frac{1}{2} + \frac{1}{3} \cdot \frac{3}{4} = \frac{1}{2}$
 $P(I|R) = \frac{P(I \cap R)}{P(R)} = \frac{1/12}{1/2} = \frac{1}{6}$ answer: A

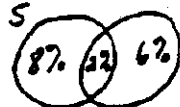
11) I: $P(K|H) + P(\bar{K}|\bar{H}) = \frac{1}{13} + \frac{39}{89} = \frac{22}{39}$ F

II: $P(K|H) + P(K|\bar{H}) = \frac{1}{13} + \frac{1}{29} = \frac{1}{13}$ F

III: $P(K|H) + P(\bar{K}|H) = \frac{1}{13} + \frac{12}{13} = 1$ T
 answer: B

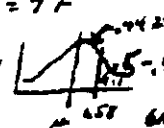
12) $P(\text{sum} > 3) = 1 - P(\text{sum} \leq 3) = 1 - P(2+2 \text{ or } 5+3) = 1 - (\frac{1}{25} + \frac{2}{25}) = 1 - \frac{3}{25} = \frac{22}{25}$ answer: D

13) $P(\text{diff. suits}) = 1 - P(\text{Same Suit}) = 1 - 1 \cdot \frac{12}{51} = \frac{39}{51} = \frac{13}{17}$
 answer: A


14)  I: $P(B) = .08 + .02 = .10$ F
 II: $P(S \cup B) = .08 + .02 + .06 = .16$ F
 III: $P(\text{Study or Only}) = .08 + .06 = .14$ T answer: E
 IV: $P(\text{either Sor O}) = 1 - P(S \cup B) = 1 - .16 = .84$ F

15) $\frac{(5-1)!}{2} \cdot \frac{4!}{2} = 12$ answer: A

16) $n = 9$, $\Sigma x = 36$; I. median = 4 F
 II. modes: 1, 5 :: bimodal T
 III. $\bar{x} = \frac{36}{9} = 4$ T answer: B
 IV. range = hi - lo = 8 - 1 = 7 F

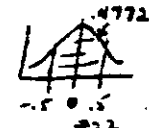
17) $z = \frac{85 - 78.2}{4.3} = 1.58$  $0.0571 \approx 6\%$
 answer: C

18) answer: A

19)  $x = 22 \pm .84(5)$
 $x = 37 \pm .84(4) = 33.64, 40.36$
 answer: B

20) answer: C

21) I: F
 II: IQR = 35 - 15 = 20 T answer: C
 III: Q₁ = 15 T
 IV: median = 30 T
 V: F

22) $z = \frac{5}{2.5/\sqrt{100}} = 2$  $0.054 \approx 5.4\%$
 answer: D

23)

x	P(x)	x · P(x)
-52	.998	-1.996
+298	.002	.596

 $E(x) = \Sigma x \cdot P(x) = -1.40$
 answer: D

24)

Obs	56	19	17	8	answer: <u>C</u>
Exp	56.25	18.75	18.75	6.25	

$$\chi^2 = \frac{(25)^2}{56.25} + \frac{(25)^2}{18.75} + \frac{(1.75)^2}{18.75} + \frac{(1.75)^2}{6.25} = .66$$

$.66 < 7.81473 \therefore$ not significantly different

25) $F = \frac{MS_b}{MS_e} = \frac{2.740}{.075} = 36.53 > 5.14 \therefore$ significant
answer: D

26) $\mu = \frac{\sum x \cdot f}{\sum f} = \frac{10 + 12 + 12 + 10}{14} = 3.14$
answer: C

27) $H_0: \mu = 10.7$
 $H_a: \mu > 10.7$
 $t = \frac{12.3 - 10.7}{11.2/\sqrt{5}} = .714 < 1.711$

not significant \therefore do not reject H_0 .

answer: B

28) $r = \frac{8(56.8) - (14.6)(26)}{\sqrt{8(32.9622 - (14.6)^2)} \sqrt{8(104) - (26)^2}}$

$r = \frac{74.8}{\sqrt{50.5456} \sqrt{156}} = .842$
answer: D

29) answer: A
if $p < \alpha$, reject.

30) answer: A