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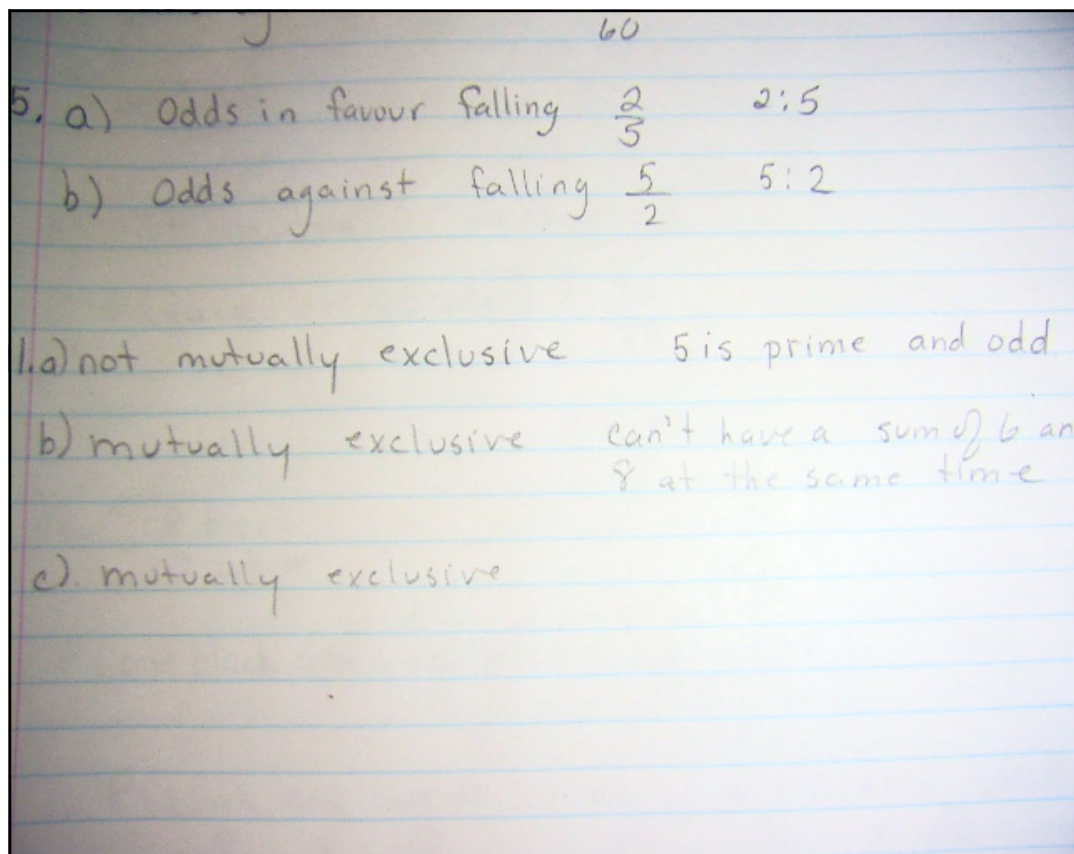
3. 60% female

a) Odds in favour female  $\frac{60}{40}$  3:2

b) Odds against female  $\frac{40}{60}$  2:3

5. a) Odds in favour falling  $\frac{2}{5}$  2:5

b) Odds against falling  $\frac{5}{2}$  5:2

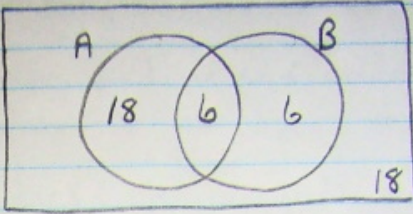


12.

a) A - face  
B - spade

pinochle deck

9 }  
10 }  
J } 4 suits } x2  
Q }  
K }  
A } ♡ ♠ ♣ ♣



b) Not mutually exclusive

c)  $P(\text{face or spade}) = \frac{30}{48}$   
 $= 0.625$

$$= 0.625$$

16. 8 black  
10 white

$P(\text{one black and one white}) =$

$P(\text{black and white})$  or  $(\text{white and black})$

$$\frac{8}{18} \times \frac{10}{17} + \frac{10}{18} \times \frac{8}{17}$$

$$\frac{80}{306} + \frac{80}{306}$$

$$\frac{160}{306}$$



17.

Plane leave winnipeg on time 0.70

Plane leave winnipeg on time and arrive on time Calgary  
0.56

$$P(\text{Calgary on time} \mid \text{left winipeg on time})$$

$$= \frac{P(\text{Calgary} \cap \text{winnipeg on time})}{P(\text{left winnipeg on time})}$$

$$= \frac{0.56}{0.70}$$

$$= 0.8$$

19. P (stair machine and body sculpt)

$$\frac{1}{3} \times \frac{1}{2}$$
$$\frac{1}{6}$$

21. Passing French 0.7  
" Chem 0.6

$$a) P(\text{Pass Fren and Pass Chem}) = 0.7 \times 0.6 \\ 0.42$$

$$b) P(\text{Pass F and Fail Chem}) = 0.7 \times 0.4 \\ 0.28$$

$$c) P(\text{Fail F and Fail Chem}) = 0.3 \times 0.4 \\ 0.12$$

$$d) P(\text{fail one course})$$

$$\begin{array}{r} P(\text{Fail F and Pass C}) \text{ or } (P(\text{Pass F and Fail C})) \\ 0.3 \times 0.6 \quad + \quad 0.7 \times 0.4 \\ 0.18 \quad + \quad 0.28 \\ 0.46 \end{array}$$