

Ch 14 C/d

$P(\underline{\text{win}}) \neq \frac{1}{52} + \frac{1}{52}$

$= P(\text{get AH} \underline{\text{draw 1}} \text{ OR } \text{get KH} \underline{\text{draw 2}})$

$P^{241} \quad P^{242}$

check: mut. excl.?

YES NO

brth could happen

?? $P(\text{win}) = ?$ No rule

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ch 14 D 3 with repl.

(a) $\frac{3}{4}$


(b) $\frac{3}{4}$ ✓ ~~$\frac{2}{3}$~~ ~~$\frac{3}{4}$~~

(c)


$P(\text{blank on 1st} \& \text{blank on 2nd})$

$\stackrel{\text{mult rule}}{=} P(\text{blank}_{1st}) \cdot P(\text{blank}_{2nd} | \text{black}_{1st})$

$= \frac{3}{4} \cdot \frac{3}{4} = \frac{9}{16}$

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(d) $P(\text{not get star})$ ok, but not help
 $= 1 - P(\text{get at least 1 star})$
 $= P(\text{get blank 1st} \& \text{ get blank on 2nd})$
 $= (c)$
 (e) $P(\text{at least 1 star})$ d, c
 $= 1 - P(\text{get no star})$
 $= 1 - (c)$
1 = 100%

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Rev 7

1 2 2 3 3 $0 = \text{not } 2$

draw 4 w/ repl

$P(\text{get } 2 \text{ at least once})$

$= 1 - P(\text{get no } 2\text{'s})$

$= 1 - \frac{3}{5} \cdot \frac{3}{5} \cdot \frac{3}{5} \cdot \frac{3}{5}$

\uparrow

$P(\text{get not } 2 \text{ on draw 1})$

$\begin{matrix} \text{not } 2 \\ \text{not } 2 \\ \text{not } 2 \\ \text{not } 2 \end{matrix}$

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rev 8

$\boxed{1 \ 2 \ 2 \ 3 \ 3}$
4 draws w/out repl

$P(\text{get at least 1 2})$

$= 100\%$

$$\begin{aligned}
 &\rightarrow = 1 - P(\text{get no 2's}) \\
 &= 1 - \frac{3}{5} \cdot \frac{2}{4} \cdot \frac{1}{3} \cdot \frac{0}{2} = 1 \\
 &\quad \uparrow P(\text{not 2})
 \end{aligned}$$

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$8(\underline{214})$
 $\left[1 \quad \textcircled{2} \quad \textcircled{2} \quad \textcircled{3} \quad \textcircled{3} \right]$
 $\begin{matrix} 4 \\ \text{draws} \\ \text{w/out} \\ \text{reph} \end{matrix}$

$P(\text{get } 1 \text{ at least once})$

$= 1 - P(\text{get no } 1)$

$= 1 - \frac{4}{5} \cdot \frac{3}{4} \cdot \frac{2}{3} \cdot \frac{1}{2} = \frac{4}{5} = 80\%$

$P\left(\begin{matrix} \text{not } 1 \\ 2^{\text{nd}} \end{matrix} \middle| \begin{matrix} \text{not } 1 \\ 1^{\text{st}} \end{matrix}\right)$

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Rev 9
(rephrasing okay
but confusing)

p 239

36 dice pairs

3 draw

1 2 3 4

A
draw

	1	2	3	4
1	1,1	1,2	1,3	1,4
2	2,1	2,2	2,3	2,4
3	3,1	3,2	3,3	3,4

(a) $\frac{3}{12}$

(b) $\frac{3}{12}$

(c) $\frac{6}{12}$

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Ex 11 3 cards dealt

$$\begin{aligned}
 (a) & P(\text{all 3 } \heartsuit) \\
 &= P(\heartsuit 1^{\text{st}} \& \heartsuit 2^{\text{nd}} \& \heartsuit 3^{\text{rd}}) \\
 &= P(\heartsuit 1^{\text{st}}) \cdot P(\heartsuit 2^{\text{nd}} | \heartsuit 1^{\text{st}}) \cdot P(\heartsuit 3^{\text{rd}} | \heartsuit 1^{\text{st}} \& \heartsuit 2^{\text{nd}}) \\
 &= \frac{13}{52} \cdot \frac{12}{51} \cdot \frac{11}{50} = 1.3\%
 \end{aligned}$$

$$(b) P(\text{none } \heartsuit) = P(3 \text{ not } \heartsuit) = \frac{39}{52} \cdot \frac{38}{51} \cdot \frac{37}{50}$$

$$\begin{aligned}
 (c) & P(\text{not all } \heartsuit) = 1 - \text{ans (a)} \\
 & \rightarrow P(\text{no } \heartsuit \text{ or } 1 \heartsuit \text{ or } 2 \heartsuit)
 \end{aligned}$$

$\rightarrow 11 \leq \text{con} + 1$

\downarrow 3 poss 3 poss

\downarrow

$\text{add row} = P(0 \diamond) + P(1 \diamond) + P(2 \diamond)$

\uparrow (b)

$\frac{39}{52} \cdot \frac{38}{51} - \frac{37}{50}$

$\nwarrow \nearrow$ more work needed

STOP

more in ch15

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