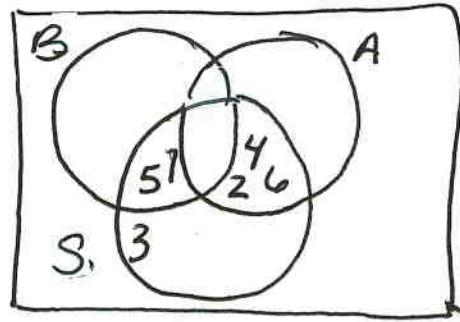
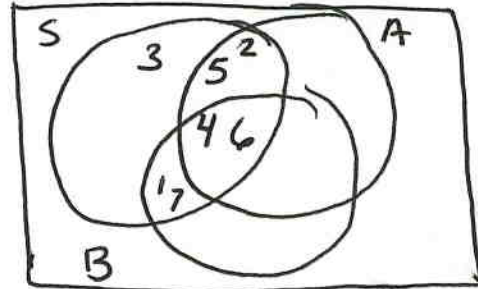


Venn Diagrams Day 6

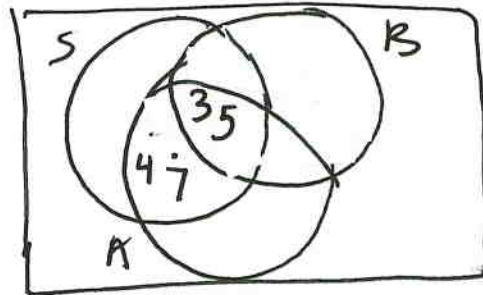
1. $S = \{2, 3, 4, 5, 6, 7\}$ $A = \{2, 4, 6\}$
 $B = \{5, 7\}$



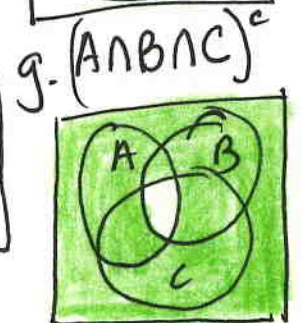
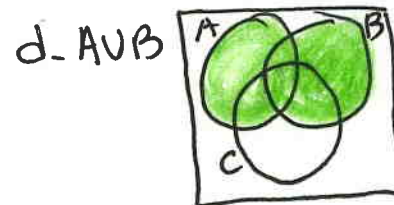
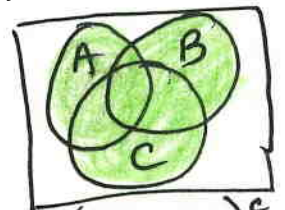
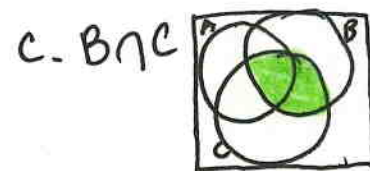
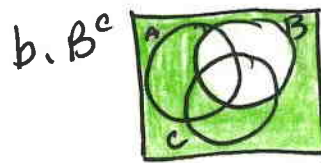
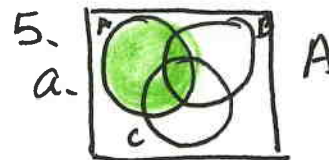
2. $S = \{1, 2, 3, 4, 5, 6, 7\}$
 $A = \{2, 4, 5, 6\}$
 $B = \{1, 4, 6, 7\}$



3. $S = \{3, 4, 5, 7\}$
 $A = \{3, 4, 5, 7\}$
 $B = \{3, 5\}$



4. a. $A = \{c, h, f, j, i\}$
 b. $B = \{b, d, e, h\}$
 c. $A^c = \{a, b, c, d, g, k\}$
 d. $B^c = \{a, c, f, g, i, j, k\}$
 e. $A \cap B = \{e, h\}$
 f. $A \cup B = \{b, d, e, f, h, i, j\}$
 g. $(A \cup B)^c = \{a, c, g, k\}$
 h. $A^c \cup B^c = \{a, b, c, d, f, g, i, j, k\}$
 $= \{a, b, c, d, f, g, i, j, k\}$



b. a. $P(H^c)$ (Not hockey)

$$.22 + .23 = .45$$

b. $P(B \cap H)$

$$.22 + .21 = .43$$

c. $P(B \cup H)$ either one

$$.34 + .21 + .22 = .77$$

d. $P(B^c \cap H)$ not B or Hockey ^{Yes}

$$\begin{array}{ccc} .34 & + & .23 = .57 \\ H & & B^c \end{array}$$

7. a) $P(A) = .25$

b) $P(B) = .32$

c) $P(C^c) = .36$

d) $P(A \cap C) = .10$

e) $P((A \cup B)^c) = .23$

f) $P(B \cup C) = .65$

g) $P(A \cup B \cup C) = .79$

h) $P(A \cap B \cap C) = .03$

i) $P(A^c \cap C) = .34$

j) $P(B^c) = .44$