

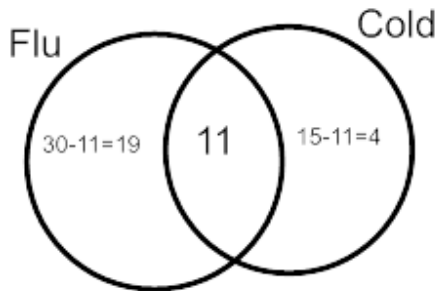
Note: Only complete and organized solutions will receive full marks.

1. a) $P(\text{rolling a sum less than 6 with 2 dice})=5/18$ (10/36)
 b) $P(\text{drawing a face card from a standard deck of cards})=3/13$ (12/52)
 c) $P(\text{tossing two tails and one head using 3 coins})=3/8$
 d) $P(\text{drawing either a red card or a black card})=1$ ((26+26)/52)

2.

$$\begin{aligned}
 P(\text{student is absent}|\text{today is Friday}) &= \frac{P(\text{students is absent and today is Friday})}{P(\text{today is Friday})} \\
 &= \frac{\left(\frac{3}{100}\right)}{\left(\frac{1}{5}\right)} \\
 &= \frac{3}{20} \text{ or } 15\%
 \end{aligned}$$

3. a) $A' = \{7, 8, 9\}$
 b) $A \text{ and } B = \{10, 11, 12, 13\} \cap \{8, 10, 12\} = \{10, 12\}$
 c) $A \text{ or } B' = \{10, 11, 12, 13\} \cup \{7, 9, 11, 13\} = \{7, 9, 10, 11, 12, 13\}$
4. There are $19+11+4=34$ people in the office.



5. a) $P(\text{rolling at most a 4})=9/14$
 b) $P(\text{rolling an odd number})=1/2$ (7/14)