

HW pp 423-425

6.37 (a) The given probabilities have sum 0.96, so  $P(\text{type AB}) = 1 - 0.96 = 0.04$ . The sum of all possible outcomes is 1. (b)  $P(\text{type O or B}) = 0.49 + 0.20 = 0.69$ .

6.38 (a) The sum of the given probabilities is 0.76, so  $P(\text{blue}) = 1 - 0.76 = 0.24$ . (b) The sum of the given probabilities is 0.77, so  $P(\text{blue}) = 1 - 0.77 = 0.23$ . (c)  $P(\text{milk chocolate M\&M is red, yellow, or orange}) = 0.13 + 0.14 + 0.2 = 0.47$ .  $P(\text{peanut M\&M is red, yellow, or orange}) = 0.12 + 0.15 + 0.23 = 0.5$ .

6.39  $P(\text{either CV disease or cancer}) = 0.45 + 0.22 = 0.67$ ;  $P(\text{other cause}) = 1 - 0.67 = 0.33$ .

6.40 (a) Since the three probabilities must add to 1 (assuming that there were no "no opinion" responses), this probability must be  $1 - (0.12 + 0.61) = 0.27$ . (b)  $0.12 + 0.61 = 0.73$ .

6.41 (a) The sum is 1, as we expect since all possible outcomes are listed. (b)  $1 - 0.41 = 0.59$ . (c)  $0.41 + 0.23 = 0.64$ .

6.44 (a)  $P(D) = P(1, 2, \text{ or } 3) = 0.301 + 0.176 + 0.125 = 0.602$ . (b)  $P(B \cup D) = P(B) + P(D) = 0.602 + 0.222 = 0.824$ . (c)  $P(D^c) = 1 - P(D) = 1 - 0.602 = 0.398$ . (d)  $P(C \cap D) = P(1 \text{ or } 3) = 0.301 + 0.125 = 0.426$ . (e)  $P(B \cap C) = P(7 \text{ or } 9) = 0.058 + 0.046 = 0.104$ .