

P73. Solutions

2.1-1. (a) $P(A) = \frac{3 \times 4}{52} = \frac{12}{52}$

(b) $P(A \cap B) = 2/52$

(c) $P(A \cup B) = \frac{12+4}{52} = 16/52$

(d) $P(C \cup D) = 52/52 = 1$

(e) $P(C \cap D) = \emptyset$

2.1-2 (a) $S = \{HHHH, HHHT, HHTH, HTHH, THHH, HHTT, HTTH, TTHH, HTHT, THTH, THHT, HTTT, THTT, TTHT, TTTT\}$

(b) (i) $P(A) = 5/16$

(ii) $P(A \cap B) = \emptyset$

(iii) $P(B) = 10/16$

(iv) $P(A \cap C) = 4/16$

(v) $P(D) = 4/16$

(vi) $P(A \cup C) = 9/16$

(vii) $P(B \cap D) = 4/16$

2.1-13 (a) $S = \{0, 00, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36\}$

(b) $P(A) = 2/38$

(c) $P(B) = 4/38$

(d) $P(D) = 18/38$