

- 2) a)  $6 \cdot 5 \cdot 2 = 60$  outfits  
 b) h. l. w outfits

3)  $26 \cdot 10 \cdot 10 \cdot 10 \cdot 10 = 260,000$

4) **Dependent**  
 $P(A) \cdot P(B) = (\frac{1}{5})(\frac{15}{30}) = \frac{15}{150} = \frac{1}{10}$   
 $P(A \cap B) = \frac{4}{30}$   
 $P(A) \cdot P(B) \neq P(A \cap B)$  so NOT independent

★ TABLE SHOWS SUM ★  
 Spinner

	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10
6	7	8	9	10	11

Dice

[15 6/sum over 6]

5) **Independent**  
 $P(A) \cdot P(B) = (\frac{1}{5})(\frac{5}{30}) = \frac{5}{150} = \frac{1}{30}$   
 $P(A \cap B) = \frac{1}{30}$   
 $P(A) \cdot P(B) = P(A \cap B)$  so independent

6) a)  $2^{12} = 4096$

7)  $2^6 \cdot 4^{12} = 1,073,741,824$

b)  $\frac{1}{4096} = 0.000244$

8)  $\frac{2^k}{6^k} = 0.000169$

c)  $\frac{1}{2^7} = 0.0078125$

9) a)  $34 \cdot 5 \cdot 23 = 3910$

b)  $(36 + 22) \cdot 5 \cdot 23 = 6670$   
 ↓ remaining  
 12 w/ 3 varieties

c)  $34 \cdot 5 \cdot 24 = 4080$