

- 1a) 20
- b) 60
- c) 10
- d) 10

2) ${}^9C_3 = 84$

3) $10^9 = 1,000,000,000$

4a) ${}^{10}C_4 = 210$

b) ${}^{10}C_2 + {}^{10}C_3 + {}^{10}C_4 = 375$

c) $7! = 5040$

5a) $1/73815$

b) $1/1771560$

c) $1/2085136$

6) $26 \cdot 26 \cdot 26 \cdot 10 \cdot 10 \cdot 10 \cdot 10 = 175,760,000$

7a) 512

b) 10 (The number of heads can be 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9. There are 10 whole numbers that it can be.)

8) ${}^{17}P_6 = 8,910,720$