[1] $250C_2 = \frac{250!}{2!(250-2)!} = 31125$

[2] $5C_2 = \frac{5!}{2!(5-2)!} = 10$

[3] $2^3 = 8$

[4] $30C_3 = \frac{30!}{3!(30-3)!} = 4060$

[5] $6C_3 = \frac{6!}{3!(6-3)!} = 20$

[7] $2C_1 = \frac{2!}{1!(2-1)!} = 2$

$4C_2 = \frac{4!}{2!(4-2)!} = 6$

$4C_3 = \frac{4!}{3!(4-3)!} = 4$

$(2 \times 6) + 4 = 16$

8) a) $2C_1 \times {}^2C_1 \times 2C_1 \times 2C_1 \times 15C_4 = 2 \times 2 \times 2 \times 2 \times 1365$

$= 10920$

b) $2C_2 \times 2C_2 \times 2C_2 \times 5C_2 \times 2C_2 = 1 \times 1 \times 1 \times 1 \times 10 = 10$