Sean Reilly

6.3: 6, 10, 12, 24, 26 (7th edition)

6.

a) 5! / 1! * 4! = 5

b) 5! / 3! * 2! = 10

c) 8! / 4! * 4! = 70

d) 8! / *! / 0! = 1

e) 8! / 0! * 8! = 1

f) 12! / 6! * 6! = 924

10.

6! = 720 different orders

12.

a) 12! / 9! * 3! = 220

b) 12! / 0! * 12! + 12! / 1! * 11! + 12! / 2! + 10! + 12! / 3! + 9! = 299

c) 2^12 – (12! / 0! * 12! + 12! / 1! * 11! + 12! / 2!) = 4017

d) 12! / 6! * 6! = 924

24.

10! * 11! / 5! = 1207084032000

26.

a) 13! / 10! * 3! = 286

b) 13! / 3! = 1037836800

c) 3 ways to look at this. First is 3 women and 7 men which would be 3! / 3! = 1 * C(10,7) which is 120. Second way is 2 women and 8 men, which would be C(3,2) * C(10, 7) which is 135. Last way is 1 woman and 9 men which is C(3,1) * C(10,8) which = 30. So 30 + 135 + 120 = 285 combinations.