

HW Section 9.6 p. 671-673

9) $4 \cdot 6 \cdot 8 = 192$

11) $3 \cdot 6 = 18$

16) $3 \cdot 3 \cdot 2 \cdot 1 = 18$
driver passenger passenger passenger

17) $26 \cdot 26 \cdot 10 \cdot 10 \cdot 10 \cdot 10 = 6,760,000$

19) a) $9 \cdot 10 \cdot 10 = 900$ b) $9 \cdot 9 \cdot 8 = 648$

c) $9 \cdot 10 \cdot 2 = 180$ d) $10 \cdot 10 \cdot 10 - 400 = 600$

24) a) no restrictions $8 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 40,320$

b) girls walk thru before boys $\frac{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 \cdot 3 \cdot 2 \cdot 1}{9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 6 \cdot 6 \cdot 6} = 720$

* c) a boy must go first $\frac{3 \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{\text{boy anyone}} = 15,120$

33) ${}_{20}P_6 = \frac{20!}{(20-6)!} = 27,907,200$

37) ${}_{20}C_4 = \frac{20!}{(20-4)! \cdot 4!} = 4845$

46) MISSISSIPPI $\frac{11!}{4! \cdot 4! \cdot 2!} = 34,650$

53) ${}_{14}C_{12} = 91$

order doesn't matter

58) a) order doesn't matter ${}_{22}C_4 = 7,315$

b) " " " ${}_{22}C_2 \cdot {}_3C_2 = 693$

c) " " " ${}_{22}C_4 + ({}_{22}C_3 \cdot {}_3C_1) + ({}_{22}C_2 \cdot {}_3C_2) = 12,628$
all good 3 good 2 good