AP Statistics Class 2

245

5. $\frac{8!}{5!\cdot 3!} = 56$ ways

6.

1	———	2 →	$\frac{5!}{2!}$
1		6 →	$\frac{5!}{2!\cdot 2!}$
2		2	
2		6	$\frac{5!}{2!}$ → sum = 210
			$\frac{5!}{2!}$

10.
a) $6! = 720$

b) $\frac{6!}{3!\cdot 3!} = 20$

c) $\frac{6!}{2\cdot 2\cdot 2} = 90$

11. $\frac{20!}{(5!)^4} = 11732745024$

15. ~~$8P_8$~~ $+ 4\cdot 8P_3 + 2\cdot 6\cdot 8P_2$
$= 3360$ ways

18. $\frac{9P_6}{5P_5} = 504$

251.

2. a) $t_{8,3}$
b) $t_{52,41}$
c) $t_{17,11}$
d) $t_{n-1,r-1}$

3. a) $2^{12} = 4096$
b) $2^{20} = 1048576$
c) $2^{25} = 33554432$
d) 2^{n-1}

8. a) i) 2
ii) 5
iii) 9

b) $\frac{n(n-1)}{2} - n$
$= t_{n,2} - t_{n,1}$

c) $t_{7,2} - t_{7,1} = 14$

11. a) the numbers are $t_{n+2,n-1}$

b) $t_{14,11} = {}_{14}C_{11} = 364$

16. a) 3, $3\cdot 1 + 3\cdot 2 = 9$ $3\cdot 1 + 3\cdot 2 + 3\cdot 3 = 18$
$= 3\frac{n(n+1)}{2}$
$= 3\cdot {}_{n+1}C_2$
$= 3\,t_{n+1,2}$

b) $3\cdot t_{11,2} = 165$

17.