Oct. 26 Worksheet

6 person committee

At least 3 teachers

1) 3 teachers and 3 students

$_5C_3 \cdot {}_{12}C_3 = 2200$

or

2) 4 teachers and 2 students

or $_5C_4 \cdot {}_{12}C_2 = 330$

3) 5 teachers and 1 student

$_5C_5 \cdot {}_{12}C_1 = 12$

Total: $2200+330+12 = 2542$ ways

2. $_5C_2 \cdot {}_4C_2 \cdot {}_2C_1 = 120$

Choosing 2 singers from 5

3. $_{12}C_9 = 220$

4. L.C.M □□□□□ $= 3! \cdot 6! =$ 4320

3! 6!

b) $8! = 40320$

c) $1 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 720$

5. $_6C_4 = 15$

6. At most 2 men * 5 person committee

1) 2 men and 3 women

$_5C_2 \cdot {}_6C_3$

2) 1 man & 4 women

$_5C_1 \cdot {}_6C_4$

3) 0 men & 5 women

$_6C_5$