1) Evaluate  $_{13}C_{7}$ . (Do you know how to use the formula?)

$$\frac{13^{6}7}{7!} = \frac{13.13.11.10.9.8.7}{7.6.5.4.3.3.1} = \frac{8648640}{5540} = \boxed{1716}$$

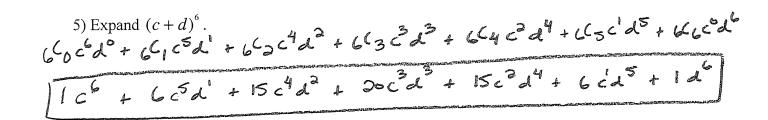
2) In a classroom there are 16 girls and 12 boys. In how many ways can 4 girls and 2 boys be chosen to join a decorating committee?

3) From a deck of 52 cards, 5 cards are drawn. What is the probability that 20 3 cards are Kings and 2 are Aces?

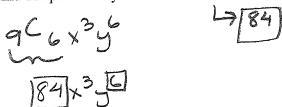
$$\frac{4^{C_3} \cdot 4^{C_2}}{50^{C_5}} = \frac{24}{2598900} = \frac{9.03 \times 10^{-6}}{9.03 \times 10^{-4} \%}$$

4) A bag has 10 green blocks and 8 purple blocks. If 6 blocks are picked out, what is the probability that exactly 4 are green and 2 are purple?

$$\frac{16^{C}4 \cdot 8^{C}2}{18^{C}6} = \frac{5886}{18524} = 0.3167$$







7) Suppose that the probability of a graphing calculator that was manufactured in a certain factory being defected is 5%. What is the probability that exactly 10 graphing calculators are defective in a shipment of 100 graphing calculators form this factory?

$$100^{\circ}(0.05)^{10}(0.95)^{90} = 0.0167$$
 $1.672$ 

8) Find the probability that at least 8 out of 10 students will pass Pre Calc, given that the probability of passing Pre Calc is 93%?

$$10^{C}8(.93)^{8}(0.07)^{3} + 10^{C}4(.93)^{7}(0.07) + 164(.93)^{7}(0.07)$$

$$= 0.1234 + 0.3643 + 0.4840$$

$$= 0.9717 = 97.172$$