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Discrete Math
Workshop 8

4-Feb-2015
HW

I. 5.3

Let $S = \{1, 2, 3, 4, 5\}$

1)

a) $${}_5P_3 = \frac{n!}{(n-k)!}$$

$$= \boxed{\frac{5!}{2!}}$$

b) $${}_nC_r = \frac{n!}{r!(n-r)!}$$

$${}_5C_3 = \frac{5!}{3!(5-3)!}$$

$$= \boxed{\frac{5!}{3!\,2!}}$$

2) a) $${}_{13}P_{10} = \boxed{\frac{13!}{3!}}$$

b) $${}_{13}C_{10} = \boxed{\frac{13!}{10!(3!)}}$$

c)

II. 6.4

1) Coefficient of 3

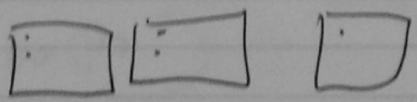
2) a)

III. 5.6

1) + - 1 _ 1 _ 1 _ 1 _ _ _

3 ways to choose 5 books

2) 5 objects



3 ways to distribute the 5 objects

Pt. 6.1

1) _ _ _ _ _

$P(2\diamondsuit) = 1/52$

$P(3\text{☆}) = 1/52$

$P(2\diamondsuit \text{ and } 3\text{☆}) = 1/52 \cdot 1/52$

$= \frac{1}{2704}$

$P(\text{draw } 2\diamondsuit) = 1/5$

$P(\text{draw } 3\text{☆}) = 1/5$

$P(\text{60 Pts}) = 1/5 \cdot 1/5$

$= 1/25$

$1/2704 \cdot 1/25 = 1/67,600$