Angela & Andrey

3-6-22 Math 69A 2010 December

fix can mean establish

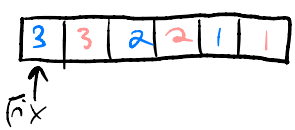
3 women and 3 men sit at a circular table. How many arrangements such that there are no consecutive women or men?

fix → 3 _ 3 _

1 _ 2 _

1 _ 2 _

$3 \cdot 3 \cdot 2 \cdot 2 = 36$



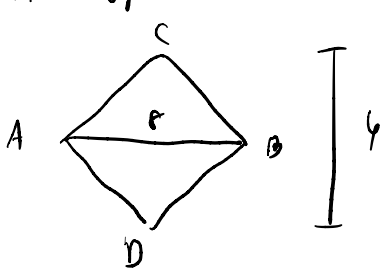
40) H $a^m < (-a)^n$ (+)

+ would be negative

$\Rightarrow$ make n even so $(-a)^n$ is (+)

$\Rightarrow m < n$

42) Area of



$\frac{d_1 \cdot d_2}{2}$

43) 0 120

5 4 3 2 1 $5 \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 5!$
$= 120$

ABCDE

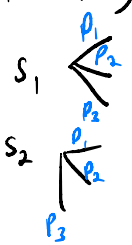
56) 26 26 26 26 26 10 $26^5(10)$
A-Z A-Z A-Z A-Z A-Z 0-9

Multiplication principle

2 shirts
3 pants

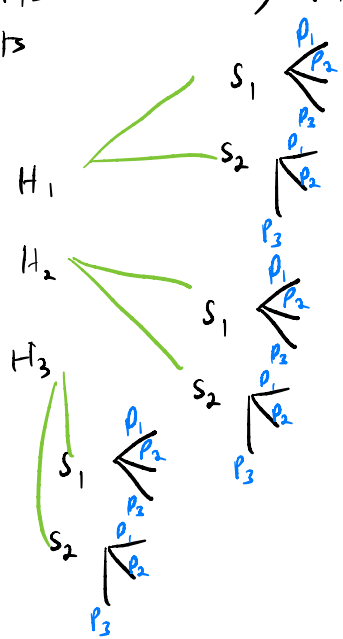
For each of 2 shirts, 3 options
$2 \cdot 3$

How many outfits? $2 \cdot 3 = 6$



3 hats
2 shirts
3 pants

How many outfits? 18



58) $\sin x > \frac{1}{2}\cos x$

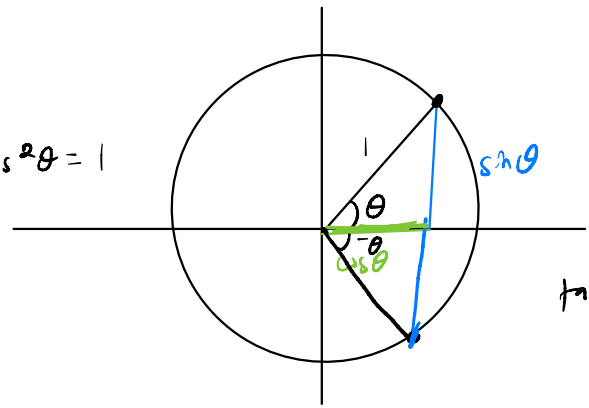
$2\sin x > \cos x$

$\frac{\sin x}{\cos x} = \tan x$

$\frac{\sin x}{\cos x} > \frac{1}{2}$

$\tan x > \frac{1}{2}$

SOH
CAH
TOA



$\sin^2\theta + \cos^2\theta = 1$

$(\sin\theta)^2$

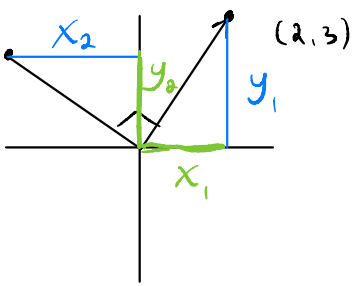
$\sin\theta = \frac{opp}{hyp} = \frac{opp}{1} = opp$

$\tan\theta = \frac{opp}{adj} = \frac{\sin\theta}{\cos\theta}$

$\cos(-\theta) = \cos\theta$

$\sin(-\theta) = -\sin\theta$

57)



New coordinates after rotation of 90° CCW?

$(-3, 2)$

$\Rightarrow$ swap coordinates