5-28-22 Math 208 2022 April (!)

— 59) $(x+y)^5 = (x+y)(x+y)(x+y)(x+y)(x+y)$

[xy] [xy] [xy] [xy] [xy]

$1x^5y^0 + 5x^4y^1$

$\binom{5}{5} = \binom{5}{0}$ $\binom{5}{4} = \binom{5}{1}$

x^2y^3

$\binom{5}{2} = \binom{5}{3}$

$\frac{5!}{2!3!} = \frac{5\cdot 4}{2} = 10$

$\binom{n}{k} = \frac{n!}{k!(n-k)!}$ perm formula

count perm → combs

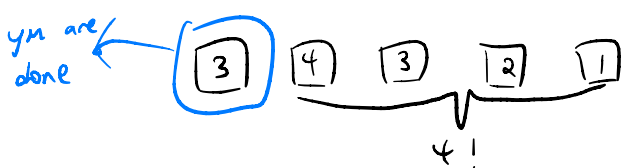
— 45) $\sum_i p_i = 1$ sum of probabilities p_i is 1

$a^2+b^2-2ab\cos C$

$3a = 1-(.20+.38+.24)$

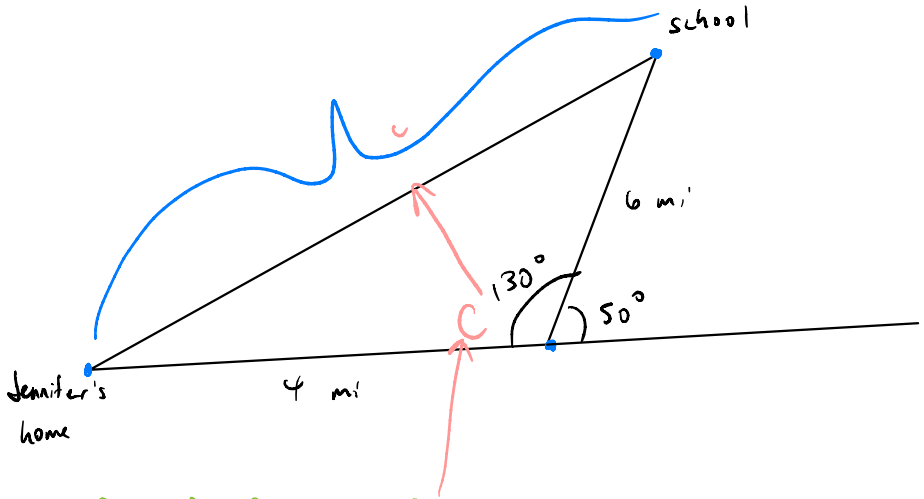
$a = \frac{1-(.20+.38+.24)}{3} = 0.06$

56) counting — always draw, or at visualize



$3 \cdot 4! = 3 \cdot 24 = 72$

47)



$c^2 = a^2 + b^2 - 2ab\cos C$

a and b are given
one of c and C is given
you solve for the remaining one

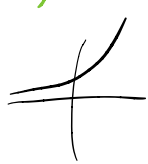
$c = \sqrt{a^2 + b^2 - 2ab\cos 130^\circ}$

52) $a_1 = 10$

$a_{n+1} = 2a_n$

10	20	40
a_1	a_2	a_3

- geometric sequence
- exponential (growth) growth



Choose between J and K

~~J~~ $a_n = 10(2^n) \Rightarrow a_1 = 10(2^1) = 20$ ✗

51) 1/2 major axis $a = 8$

1/2 minor axis $b = 6$

$\frac{\sqrt{8^2 - 6^2}}{8} \approx .66$

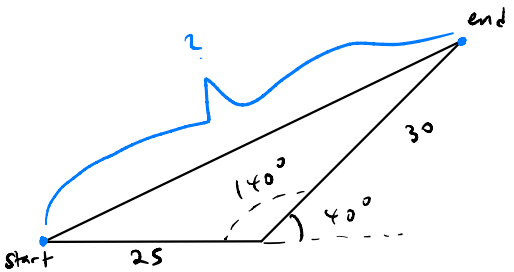
D $0.6 < e < 0.8$

Math 68A

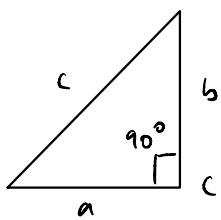
60) 108° $\quad \frac{540^\circ}{5}$ $\quad 180(n-2)$

$180n \Rightarrow$ triangle has $180(3) = 540^\circ$

53)



? $= \sqrt{25^2 + 30^2 - 2(25)(30)\cos(140^\circ)}$



$c^2 = a^2 + b^2 - 2ab\cos C$

$c^2 = a^2 + b^2 - 2ab\cos(90^\circ)$

$= a^2 + b^2$