Geometry | Tues. 4-23-13 | Class Notes

Homework review: Pg. 87 #1-8, 16, 17.

② 3 bl., 3 j, 2 sk.

$3 \cdot 3 \cdot 2 =$ 18 diff. outfits

③ $\frac{9}{d} \cdot \frac{25}{\ell} =$ 225 codes

$d \neq 0$ $\quad \ell \neq 0$

④ 7 days total, 1 day jet ski
1 day golf

$${}_N P_r = \frac{N!}{(N-r)!}$$

$${}_7 P_2 = \frac{7!}{(7-2)!} = \frac{7!}{5!} = 7 \cdot 6 =$$ 42 ways to schedule

⑤ $${}_N P_r = \frac{N!}{(N-r)!}$$

$${}_{12} P_3 = \frac{12!}{9!} = 12 \cdot 11 \cdot 10 =$$ 1320 ways

(6) $_NP_r = \frac{N!}{(N-r)!}$

$$_6P_3 = \frac{6!}{3!} = 6 \cdot 5 \cdot 4 = \boxed{120 \text{ WAYS}}$$

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(7) $_NC_r = \frac{N!}{(N-r)!\,r!}$

$$_{21}C_4 = \frac{21!}{(17)!\,4!} = \frac{\overset{7}{\cancel{21}} \cdot \overset{5}{\cancel{20}} \cdot 19 \cdot \overset{9}{\cancel{18}}}{\underset{1}{\cancel{4}} \cdot \underset{1}{\cancel{3}} \cdot \underset{1}{\cancel{2}} \cdot 1}$$

$$= 35 \cdot 19 \cdot 9$$

$$= \boxed{5985 \text{ WAYS}}$$

$$\begin{array}{r} 35 \\ \times 19 \\ \hline 315 \\ 35 \\ \hline 665 \\ \times\ 9 \\ \hline 5985 \end{array}$$

(8) $${}_NC_r = \frac{N!}{(N-r)!\,r!}$$

$${}_5C_3 = \frac{5!}{2!\,3!} = \frac{5\cdot 4}{2\cdot 1} = \boxed{10 \text{ WAYS}}$$

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(16) ${}_6P_6$ $\quad {}_NP_r = \frac{N!}{(N-r)!}$

$$= \frac{6!}{(6-6)!} = \frac{6!}{0!} = \frac{6!}{1}$$

$$= 6\cdot 5\cdot 4\cdot 3\cdot 2\cdot 1 = \boxed{720}$$

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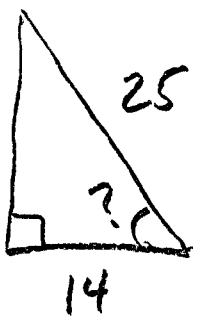
(17) ${}_5C_5 =$ $\quad {}_NC_r = \frac{N!}{(N-r)!\,r!}$

$$= \frac{5!}{(5-5)!\,5!} = \frac{5!}{5!} = \boxed{1}$$

Worksheet

(14)



Let ? = X

$\cos X = \frac{14}{25} = \frac{56}{100} = .56$

$\cos^{-1}(.5600) = X$

$56^\circ \approx X$

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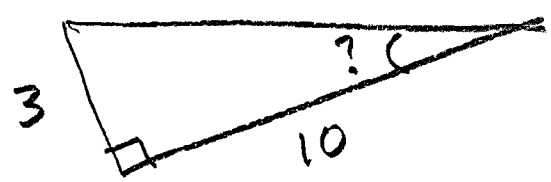
(18)



$\tan X = \frac{3}{10} = .3000$

$\tan^{-1}(.3000) = X$

$17^\circ \approx X$