Math 61 Quiz Week 4 10 minutes. Use pen only

Your Name:	UCLA ID:

SECTION: Cross one box below

Day \ T.A.	John	Zach	Sam
Tuesday	1A	1C	1E
Thursday	1B	1D	1F

Problem 1. Circle the option that applies. The number of 3-permutations of $\{1,2,3,4,5\}$ (i.e. injections from $X = \{1,2,3\}$ to $Y = \{1,2,3,4,5\}$) is

(a) 15,

(b) 3!,

(c) 30, $60 = 5 \cdot 4 \cdot 3$

(d) 10,

(e) 5!.

Problem 2. Circle the option that applies. The number of 3-combinations of $\{1,2,3,4,5\}$ is

(a) 15,

(b) 3!,

(c) 30,

(d) 10,

(e) 5!.

Problem 3. Circle the option that applies How many nonnegative integer solutions are there to $x_1 + x_2 + x_3 + x_4 = 6$?

(a) $\binom{6}{4}$,

(b) $\binom{9}{3}$, $\binom{6+4-1}{4-1} = \binom{9}{3}$

(c) $\binom{10}{4}$,

(d) $\binom{10}{3}$,

(e) $\binom{9}{4}$.

Problem 4. Below are parts of the ninth and tenth row of Pascal's triangle: $\binom{9}{0}, \ldots, \binom{9}{9}$ and $\binom{10}{0}, \ldots, \binom{10}{10}$. Fill in the missing entries.

1 9 36 84 126 126 84 36 9 1

1 10 45 120 210 252 210 120 45 10 1