姓名 Name： $\qquad$ Quiz 1

學號 Student ID \＃： $\qquad$
MATH 207：Discrete Mathematics II

Let $H$ be the graph on 4 vertices as shown below．


Let $X$ be a random variable whose value is the number of induced subgraphs in the random graph model $G(n, p)$ that is isomorphic to $H$ ．Find $a, b, c, d$ so that

$$
\mathbb{E}(X)=a\binom{n}{b} p^{c}(1-p)^{d} .
$$

Check code $=(a+b+c+d) \bmod 10$

## Solution．

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Let $H$ be the graph on 5 vertices as shown below．


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MATH 207：Discrete Mathematics II

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$$

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## Solution．

Indicating your answer by underlining it or circling it． Compute the check code and fill it into the box on the right．
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## Solution．

