

I pledge my honor that I have neither given nor received aid on this exam.

NAME

Z NUMBER

Show all work (attach work pages). Write on one side of page only. Write answers in space provided. Staple in upper left-hand corner.

Consider three identical-looking dice. Two of the dice are ordinary fair dice (six equally-likely faces, numbered $1, 2, \dots, 6$), but the third die is "loaded" (the face that ordinarily has a 1 has a 6 instead; that is, the loaded die has two 6's, on opposite faces). Fran and Ron each chooses a die at random, and the remaining die is discarded. Suppose that Fran and Ron roll their dice simultaneously.

1. Find the probability that Fran rolls a 1.

$$1 \quad \frac{1}{9}$$

2. Find the probability that Ron rolls a 1.

$$2 \quad \frac{1}{9}$$

3. Find the probability that Fran rolls a 1 if Ron rolls a 1.

$$3 \quad \frac{1}{12}$$

4. Find the probability that Fran rolls a 6.

$$4 \quad \frac{2}{9}$$

$$5 \quad \frac{17}{108}$$

5. Find the probability that the sum of Fran's roll and Ron's roll is 8.

$$6 \quad \frac{4}{17}$$

6. Find the probability that Fran rolled a 6 if the sum of the dice was 8.