Probability Models Name:

1. In the United States, people travel to work in many different ways. The table below gives the distribution of responses to a survey in which people were asked their means of travel to work.
2. What probability should replace the ? in this probability model?
3. What is the probability that a randomly selected worker does not use public transportation to get to work or P(public transportation c)
4. What is the probability that a randomly selected worker drives to work (either alone or in a carpool)?
5. What is the probability that a randomly selected worker does not drive to work (alone or in a car pool)?
6. Use the probability model from the table below to answer the following questions:



1. Suppose a person is selected at random. Compute the probability that the person has Rh+ blood.
2. Any patient with Rh+ blood can safely receive a transfusion of type O+ blood. What percentage of people in the U.S. can receive a transfusion of type O+ blood?
3. The two most common blood types are O+ and A+. However, many people with O+ and A+ blood do not donate blood. One reason is the belief that because they have a common blood type, their blood is not needed. Is this a valid reason? Support your answer with percentages.
4. Suppose two U. S. residents are randomly selected. Use the probability model to find the probability that they both have type O blood. P (O and O)
5. Find the probability that exactly one of the two have type O blood or find P(O and Oc) or P(Oc and O)
6. What is the probability that neither have type O blood? P(Oc and Oc)
7. According to the U.S. Energy Information Administration, about 51% of homes heat with natural gas. Let G represent homes that heat with gas and N represent homes not heated with gas. Suppose 3 homes are randomly selected.
8. List the sample space for the 3 homes heating methods: (GGG means all 3 gas, GNG means first home gas, second not, and third home gas)

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1. List the outcomes for exactly one of the three homes heated with gas :
2. List the outcomes for exactly two of the three homes heated with gas :
3. List the outcomes for all 3 homes heated with gas
4. List the outcomes for at least one home heats with gas
5. Calculate the probabilities for each of the outcomes above (b-e)

P(exactly one G):

P(exactly two G):

P(all three G)

P(at least one G)