Name: _____

Group _____

For each of the following situations, state which distribution (and approximate distribution, if applicable) would be most appropriate, and why you think so. If the method is an approximation to another method, you need to confirm that the approximation is appropriate. Also please state all of the parameters and put numbers to them if possible. If the number is not given, define what the parameter would be in terms of the story. 'None of the above' is an option (no parameters are required in this case). Assume all proportions are 30% unless specified otherwise.

- 1. 1Let X be the number of chocolate chip cookies which are brought to you if you ask the waitress to randomly select 4 cookies from a selection of 50 chocolate chip, 30 oatmeal, and 70 peanut butter.
- 2. 2Let X be the percent of flour which will be used up by the end of the day at the bakery.
- 3. 5Let X be the number of customers, out of the next 1000 who come in, who hate chocolate chip cookies. Assume that the 0.2% hate chocolate chip cookies.
- 4. 3Let X be the number of customers who will come into the store until a customer wants to buy a chocolate chip cookie.
- 5. 4Let X be the length of time that the baker will have to wait until a customer wants to buy a chocolate chip cookie.
- 6. 6Let X be the number of customers, out of the next 50 who come in, who will want to buy a chocolate chip cookie. We are interested if more than half of the customers buy chocolate chip cookies.
- 7. 7Let X indicate whether the next customer will want to buy a chocolate chip cookie.

- 8. 8Let X be the exact arrival time of the first customer if we know that exactly one customer arrived between 8:03 and 8:12 AM.
- 9. 9Let X be the number of customers who will want to buy a chocolate chip cookie in the next hour if, according to bakery records, an average of 3 customers per hour want to buy a chocolate chip cookie.
- 10. 10Let X be the length of time that the baker will have to wait to bring out a new batch of dozen chocolate chip cookies if he just put out the first dozen and if on average 3 customers per hour want to buy a chocolate chip cookie.
- 11. 11Let X be the diameter of a chocolate chip cookie selected at random if you know that the average diameter is 6 inches with a standard deviation of 0.4 inches and if you know that the distribution of cookies has a bell-shaped curve.
- 12. 12Let X be the number of cookies you will eat until you find the 5th one that has more than 7 chocolate chips in it.
- 13. 13Let X be the position of the cookie on the tray (numbered 1 to 12) that the cookie you will be served has if all cookies are equally convenient to the waitress.
- 14. 14Let X be the number of chocolate chip cookies which are brought to you if you ask the waitress to randomly select 4 cookies from a selection of 5 chocolate chip, 3 oatmeal, and 7 peanut butter.
- 15. 15Let X be the number of customers, out of the next 20 who come in, who will want to buy a chocolate chip cookie.