**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***Normal Distribution Worksheet***

1. A line up for tickets to a local concert had an average (mean) waiting time of 20 minutes with a standard deviation of 4 minutes.

1. Draw the normal distribution curve and label the x axis up to 3 standard deviations. Include the % of the population in each SD range.

b) What percentage of the people in line waited for more than 28 minutes?

c) If 2000 ticket buyers were in line, how many of them would expect to wait for less than 16 minutes?

2. On a recent math test, the mean score was 75 and the standard deviation was 5. Mike scored 70.

1. Draw the normal distribution curve and label the x axis up to 3 standard deviations. Include the % of the population in each SD range.
2. What percentile did Mike score?

3. In an Oreo factory, the mean mass of a cookie is given as 40 g. For quality control, the standard deviation is 2 g.

a) If 10,000 cookies were produced, how many cookies are within 2 g of the mean?

b) Cookies are rejected if they weigh more than 44 g or less than 36 g. How many cookies would you expect to be rejected in a sample of 10,000 cookies?

4. The speeds of cars on the highway have a mean of 95 km/h with a standard deviation of 5 km/h.

a) What percentage of cars averaged less than 85 km/h?

b) If a police car stopped cars that were going more than 105 km/h, how many cars would they stop if there were 8000 cars on the highway?