SECONDARY MATH III
STATISTICS UNIT
WS 12.7 NORMAL DISTRIBUTION

NAME_____
DATE_____
CLASS_____

The Normal Distribution

Determine whether the data in each table appear to be *positively skewed, negatively skewed, or normally distributed.*

1.

Time Spent at a Museum Exhibit	
Minutes	Frequency
0–25	27
26–50	46
51–75	89
75–100	57
100+	24

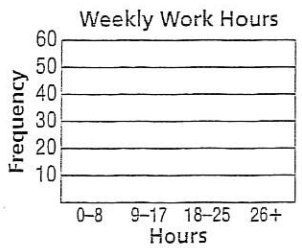
2.

Average Age of High School Principals	
Age in Years	Number
31–35	3
36–40	8
41–45	15
46–50	32
51–55	40
56–60	38
60+	4

For Exercises 3 and 4, use the frequency table that shows the number of hours worked per week by 100 high school seniors.

Hours	Number of Students
0–8	30
9–17	45
18–25	20
26+	5

3. Make a histogram of the data.



4. Do the data appear to be *positively skewed*, *negatively skewed*, or *normally distributed*? Explain.

TESTING For Exercises 5–10, use the following information.

The scores on a test administered to prospective employees are normally distributed with a mean of 100 and a standard deviation of 15.

5. About what percent of the scores are between 70 and 130?

6. About what percent of the scores are between 85 and 130?

7. About what percent of the scores are over 115?

8. About what percent of the scores are lower than 85 or higher than 115?

9. If 80 people take the test, how many would you expect to score higher than 130?

10. If 75 people take the test, how many would you expect to score lower than 85?

11. **TEMPERATURE** The daily July surface temperature of a lake at a resort has a mean of 82° and a standard deviation of 4.2°. If you prefer to swim when the temperature is at least 77.8°, about what percent of the days does the temperature meet your preference?