| Name: | Date: |  |
|-------|-------|--|
|       |       |  |

Joe is collecting data of the heights of adult males and creates the frequency distribution shown on the right.

|   |  |  |  |  |  |  |  |  |  | - |
|---|--|--|--|--|--|--|--|--|--|---|
|   |  |  |  |  |  |  |  |  |  |   |
| _ |  |  |  |  |  |  |  |  |  | _ |
| _ |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |
|   |  |  |  |  |  |  |  |  |  |   |

| Height (inches) | Frequency |
|-----------------|-----------|
| < 61            | 3         |
| 61 - 62         | 4         |
| 62 - 63         | 10        |
| 63 - 64         | 18        |
| 64 - 65         | 30        |
| 65 - 66         | 52        |
| 66 - 67         | 64        |
| 67 - 68         | 116       |
| 68 - 69         | 128       |
| 69 - 70         | 147       |
| 70 - 71         | 129       |
| 71 - 72         | 115       |
| 72 - 73         | 63        |
| 73 - 74         | 53        |
| 74 - 75         | 29        |
| 75 - 76         | 20        |
| 76 - 77         | 12        |
| 77 - 78         | 5         |
| 78+             | 2         |

- 1. Create a histogram of the men's heights.
- 2. What do you notice about the general shape?
- 3. Joe calculated the mean of the data as 69.5 inches. Where is this on the graph?

## **The Normal Distribution**

(also known as the bell curve)

Many (maybe even most) quantities will be found to be normally distributed, given enough data points.

• •

• • •

• • •

The mean ( ) and the standard deviation ( ) are what distinguish one curve from another.

The Mean

**The Standard Deviation**