**JUNE 1, 2017**

# UNIT 9: PROBABILITY AND STATISTICS

## HISTOGRAMS

**M. MALTBY INGERSOLL**
***MATH 9***

## WHAT'S THE POINT OF TODAY'S LESSON?

**We will work on the Math 9 Specific Curriculum Outcome (SCO) "Statistics and Probability 3" OR "SP3" which states:**

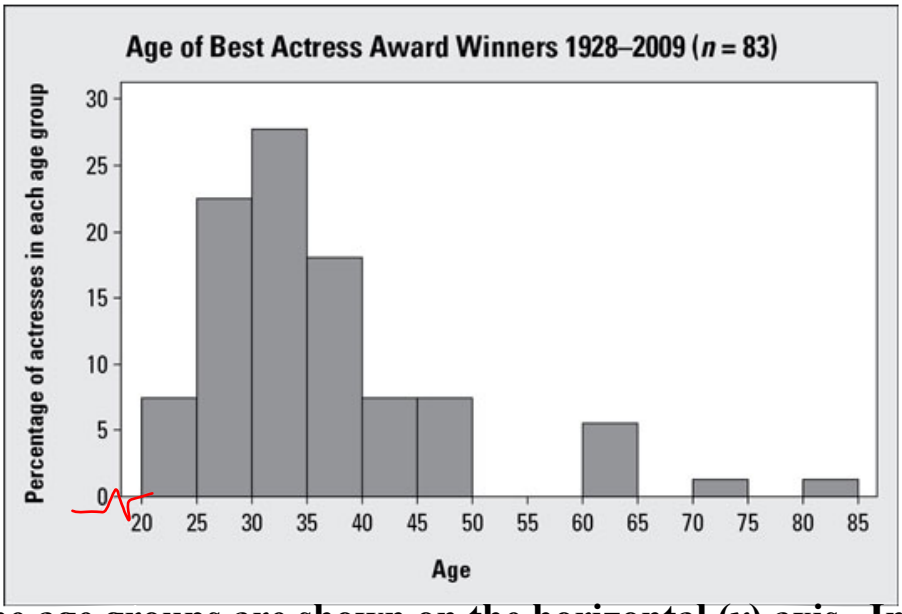
**"Construct, label and interpret histograms to solve problems."**

**HOMEWORK QUESTIONS???**
**(pages 440 / 441, #4, #6, #7, #9 and #10 ;**
**pages 448 / 449, #3, #6, #7, #8, #10 and #12a)**

# Histograms

**A *histogram* is a special graph applied to statistical data broken down into numerically ordered groups. In a histogram, the bars connect to each other. The height of each bar of a histogram represents either the number of individuals (called the *frequency*) in each group or the percentage of individuals (the *relative frequency*) in each group. Each individual in the data set falls into exactly one bar.**

**EX: The Academy Awards started in 1928, and one of the most popular categories is "Best Actress in a Motion Picture". The histogram below shows the ages of winners of this category from 1928 – 2009:**

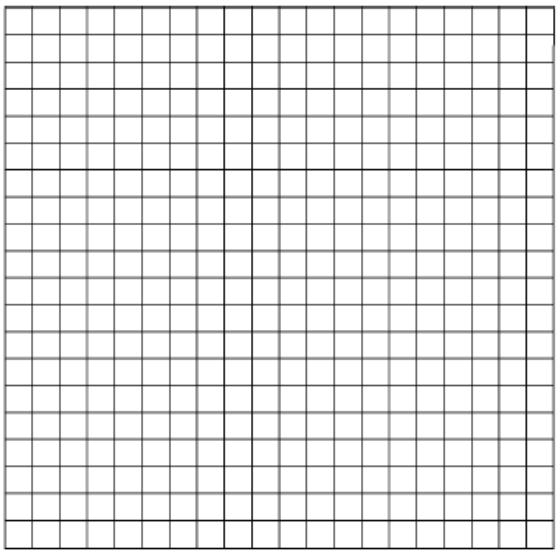



**Notice that the age groups are shown on the horizontal ($x$) axis. Intervals of 5 years are used to organize the information: 20 – 24, 25 – 29, 30 – 34, . . . 80 – 84. The percentage (relative frequency) of actresses in each age group appears on the vertical ($y$) axis. For example, about 27 percent of the actresses were between 30 and 34 years of age when they won their Oscars.**

EX: The following data consists of the weights, in pounds, of 24 high school students: 195, 206, 100, 98, 150, 210, 195, 106, 195, 108, 180, 212, 104, 195, 100, 216, 99, 206, 116, 142, 100, 135, 98, 160.

Using this data, complete the frequency table below and display the data in a histogram using the grid provided.

| Interval | Tally | Frequency |
|---|---|---|
| 51-100 | | |
| 101-150 | | |
| 151-200 | | |
| 201-250 | | |



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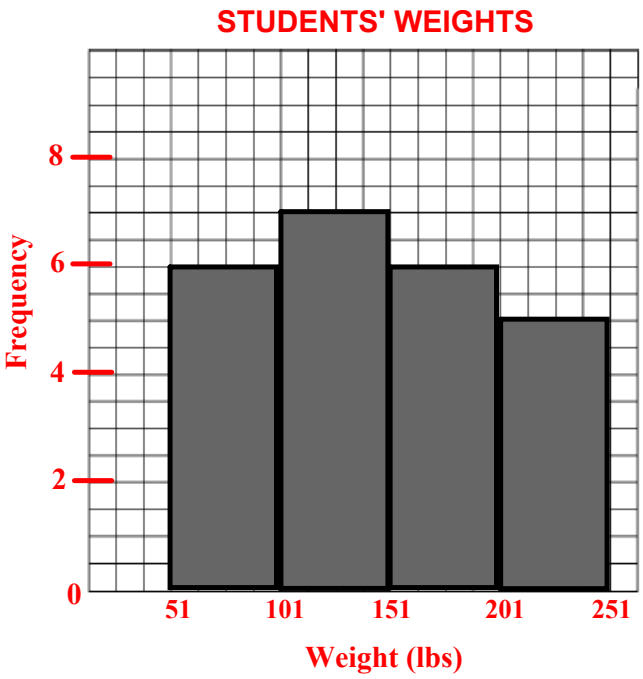
Using this data, complete the frequency table below and display the data in a histogram using the grid provided.

| Interval | Tally | Frequency |
|---|---|---|
| 51-100 | 𝍸 I | 6 |
| 101-150 | 𝍸 II | 7 |
| 151-200 | 𝍸 I | 6 |
| 201-250 | 𝍸 | 5 |



## CONCEPT REINFORCEMENT:

* Histograms worksheet package
* Prepare for Monday's Unit 9 Test (open-book as far as you can use your personal notes)

# UNIT 9 TEST PREPARATION - STUDY GUIDE:

9.1: PROBABILITY ; THEORETICAL PROBABILITY ; EXPERIMENTAL PROBABILITY ; SUBJECTIVE JUDGMENT (PG 425)

9.2: BIAS ; USE OF LANGUAGE ; TIMING ; ETHICS ; CULTURAL SENSITIVITY ; TIME ; COST ; PRIVACY (PG 432)

9.3: POPULATION ; CENSUS ; SAMPLE (PG 438)

9.4: SIMPLE RANDOM SAMPLING ; SYSTEMATIC OR INTERVAL SAMPLING ; CLUSTER SAMPLING ; SELF-SELECTED SAMPLING ; CONVENIENCE SAMPLING ; STRATIFIED RANDOM SAMPLING (PG 446)

AND: HISTOGRAMS