## 06 - Standard Deviation and the Normal Model

|                 |   |        |   |                |   |                 |   | <sup>1</sup> N |   | $^{2}$ Z        |   |                |   |   |   |   |   |   |   |   |
|-----------------|---|--------|---|----------------|---|-----------------|---|----------------|---|-----------------|---|----------------|---|---|---|---|---|---|---|---|
|                 |   |        |   |                |   |                 |   | О              |   | S               |   |                |   |   |   |   |   |   |   |   |
|                 |   | $^3$ S |   | <sup>4</sup> E | M | P               | I | R              | I | С               | A | L              | R | U | L | Е |   |   |   |   |
|                 |   | Т      |   |                | - | -               |   | M              |   | О               |   |                | - |   |   |   |   |   |   |   |
|                 |   | A      |   |                |   |                 |   | A              |   | R               |   | <sup>5</sup> P |   |   |   |   |   |   |   |   |
|                 |   | N      |   |                |   |                 |   | L              |   | Е               |   | A              |   |   |   |   |   |   |   |   |
|                 |   | D      |   |                | _ |                 |   | P              |   |                 |   | <sup>6</sup> R | Е | S | C | A | L | I | N | G |
|                 |   | A      |   | <sup>7</sup> S |   |                 |   | R              |   | <sup>8</sup> V  |   | A              |   |   |   | i |   |   |   |   |
|                 |   | R      |   | Т              |   |                 |   | О              |   | A               |   | <sup>9</sup> M | Е | A | N |   |   |   |   |   |
|                 |   | D      |   | A              |   |                 |   | В              |   | R               |   | Е              |   |   |   |   |   |   |   |   |
|                 |   | D      |   | N              |   | <sup>10</sup> S | T | A              | Т | I               | S | Т              | I | C |   |   |   |   |   |   |
|                 |   | Е      |   | D              |   |                 |   | В              |   | A               |   | Е              |   |   |   | i |   |   |   |   |
|                 |   | V      |   | A              |   |                 |   | I              |   | <sup>11</sup> N | О | R              | M | A | L |   |   |   |   |   |
|                 |   | Ι      |   | R              |   |                 |   | L              |   | С               |   |                |   |   |   |   | 1 |   |   |   |
| <sup>12</sup> S | Т | A      | N | D              | A | R               | D | I              | Z | Е               | D | V              | A | L | U | Е |   |   |   |   |
|                 |   | Т      |   |                |   |                 |   | Т              |   |                 |   |                |   |   |   |   |   |   |   |   |
|                 |   | I      |   |                |   |                 |   | Y              |   |                 |   |                |   |   |   |   |   |   |   |   |
|                 |   | О      |   |                |   |                 |   | P              |   |                 |   |                |   |   |   |   |   |   |   |   |
|                 |   | N      |   |                |   |                 |   | L              |   |                 |   |                |   |   |   |   |   |   |   |   |
|                 |   |        |   |                |   |                 |   | О              |   |                 |   |                |   |   |   |   |   |   |   |   |
|                 |   |        |   |                |   |                 |   | T              |   |                 |   |                |   |   |   |   |   |   |   |   |

## **Across**

- **4.** In a Normal model, about 68% of the values within 1 standard deviation of the mean, about 95% within 2 standard deviations, and about 99.7% within 3 standard deviations.
- **6.** The process of multiplying each value by a constant that multiplies both the measures of position and measures of spread by that constant.
- **9.** center of the Normal model.

- **10.** Numerical attribute of a set of data.
- **11.** model used for certain unimodal, symmetric distributions.
- **12.** The value found by subtracting the mean and dividing by the standard deviation.

## Down

**1.** Display to help assess whether a distribution of data is approximately Normal.

- **2.** Tells how many standard deviations a value is from the mean.
- **3.** The square root of the variance.
- **5.** Numerical attribute of a model.
- 7. Type of Normal model with mean 0 and standard deviation 1.
- **8.** The sum of the squared deviations from the mean, divided by the count minus one.