

Solution To Normal Distribution

Part I

1. $\text{normalcdf}(17, 23, 25, 8) = 0.2426$
2. $\text{normalcdf}(-10000, 10, 25, 8) = 0.0304$
3. $\text{normalcdf}(32, 10000, 25, 8) = 0.1908$
4. $\text{invNorm}(0.10, 25, 8) = 14.75$

Part II.

1. $\text{normalcdf}(-10000, 0, 0, 1) = 0.5$
2. $\text{normalcdf}(-1, 1, 0, 1) = 0.6827$
3. $\text{normalcdf}(-2, 2, 0, 1) = 0.9545$
4. $\text{normalcdf}(-3, 3, 0, 1) = 0.9973$

These probabilities are used in the EMPIRICAL Rule.

Part III.

1. $\text{normalcdf}(120, 10000, 100, 15) = 0.0912$
2. $\text{normalcdf}(110, 130, 100, 15) = 0.2297$
3. $\text{invNorm}(0.90, 100, 15) = 119.22$
4. $\text{invNorm}(0.98, 100, 15) = 130.81$