

1. a) $250.4 - 1 \times 66.5 = 183.9$, $250.4 + 1 \times 66.5 = 316.9 \Rightarrow 68\%$
 b) $250.4 - 3 \times 66.5 = 50.9$, $250.4 + 3 \times 66.5 = 449.9 \Rightarrow 99.7\%$
- 2) $5 + 1 + 3 + 5 + 3 + 3 = 20$
- 3) $2, 2+4, 2+4+6, 2+4+6+10, 2+4+6+10+5, 2+4+6+10+5+6, 2+4+6+10+5+6+1$
 $2, 6, 12, 22, 27, 33, 24$
- 4) s, σ, s^2, σ^2
- 5) $\text{male}, z = \frac{1500 - 3276.5}{661.2} = -2.69$, $\text{Female}, z = \frac{1500 - 3020.7}{745.7} = -2.04$
- 6) Hair color
- 7) Number of suitcases on a plane
- 8) $155, 167.6, 171.7, 179.4, 193$
- 9) Ratio
- 10) Systematic
- 11) $N = 5 + 11 + 13 + 6 + 1 = 36$, $5/36 = 13.89\%$, $\dots \dots 1/36 = 2.78\%$
- 12) a) , Yes, it is approximately normal.
- 13) $15, 25, 35, 45, 55, 65, 75 \rightarrow$ lower class limit.
 $24, 34, 44, 54, 64, 74, 84 \rightarrow$ upper class limit.
 $(24 - 15 + 1) = 10 \rightarrow$ class width
 $19.5, 29.5, 39.5, 49.5, 59.5, 69.5, 79.5 \rightarrow$ class midpoints
 $14.5, 24.5, 34.5, 44.5, 54.5, 64.5, 74.5, 84.5 \rightarrow$ Class boundaries.
 $28 + 33 + 15 + 14 + 15 + 1 + 1 = 87 \rightarrow N$
- 14) Ratio
- 15) $42 \times 1 + 47 \times 5 + 52 \times 9 + 57 \times 6 + 62 \times 1 = 1149$, $N = 22$, $\text{mean} = \frac{1149}{22} = 52.2$
- 16) $26.7, 107.23, 10.36$, No, because the sample is not representative of the whole population.
- 17) $9.33, 9.3, 10.2, 9.4$
- 18) Parameter, population
- 19) $124, 133.5, 143, 150.3, 167$.
- 20) Discrete
- 21) Simple random sample.