# Activity for the Arthmetic Mean Calculation

*This is an activity for the arithmetic mean calculation.*

**Question 1** *Here is a table from which we need to calculate the population descriptive statistics.*

| ***Class*** | $f$ | $M$ | $f \cdot M$ | $f \cdot M^2$ |
|---|---|---|---|---|
| $1-3$ | 16 | 2 | 32 | 64 |
| $3-5$ | 2 | 4 | 8 | 32 |
| $5-7$ | 4 | 6 | 24 | 144 |
| $7-9$ | 3 | 8 | 24 | 192 |
| $9-11$ | 9 | 10 | 90 | 900 |
| $11-13$ | 6 | 12 | 72 | 864 |
| | 40 | | 250 | 2196 |

*Then we can calculate the following:*

(a) *The mean* $\mu =$ 6.25

(b) *The mode* $\tilde{x} =$ 8

(c) *The variance* $\sigma^2 =$ 15.84

(d) *The standard deviation* $\sigma =$ 3.98

**Question 2** *Use the following table to calculate the mean, mean absolute deviation, variance and standard deviation for the following sample data.*

Learning outcomes: Understand how to calculate the arithmetic mean. Calculate the arithmetic mean of a set of data.

Author(s): Isaac Mulolani

| ***Class*** | $f$ | $M$ | $f \cdot M$ | $f \cdot M^2$ |
|---|---|---|---|---|
| $10 - 15$ | 6 | $\boxed{12.5}$ | $\boxed{75.0}$ | $\boxed{937.50}$ |
| $15 - 20$ | 22 | $\boxed{17.5}$ | $\boxed{385.0}$ | $\boxed{6,737.50}$ |
| $20 - 25$ | 35 | $\boxed{22.5}$ | $\boxed{787.5}$ | $\boxed{17,718.75}$ |
| $25 - 30$ | 29 | $\boxed{27.5}$ | $\boxed{797.5}$ | $\boxed{21,931.25}$ |
| $30 - 35$ | 16 | $\boxed{32.5}$ | $\boxed{520.0}$ | $\boxed{16,900.00}$ |
| $35 - 40$ | 8 | $\boxed{37.5}$ | $\boxed{300.0}$ | $\boxed{11,250.00}$ |
| $40 - 45$ | 4 | $\boxed{42.5}$ | $\boxed{170.0}$ | $\boxed{7,225.00}$ |
| $45 - 50$ | 2 | $\boxed{47.5}$ | $\boxed{95.0}$ | $\boxed{4,512.50}$ |
| | 122 | | $\boxed{3,130.0}$ | $\boxed{87,212.50}$ |

*Then we can get the following:*

(a) *The mean is* $= \boxed{25.66}$

(b) *The mode is* $= \boxed{22.5}$

(c) *The variance is* $= \boxed{57.11}$

(d) *The standard deviation is* $= \boxed{7.56}$

**Question 3**

**Question 4**

**Question 5**