

Lampiran

Hasil perhitungan pada modul tugas akhir

a. Perhitungan Berat 10 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 100.040 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata...?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{100.040}{10} = 10.004 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 10.004 \text{ gram}$$

$$Y = 10 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 10.004 - 10 = 0.004 \end{aligned}$$

b. Perhitungan Berat 20 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 200.43 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

\bar{x} = rata-rata....?

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{200.43}{10} = 20.043 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 20.043 \text{ gram}$$

$$Y = 20 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 20.043 - 20 = 0.043 \end{aligned}$$

c. Perhitungan Berat 30 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 300.16 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

\bar{x} = rata-rata....?

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{300.16}{10} = 30.016 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 30.016 \text{ gram}$$

$$Y = 30 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 30.016 - 30 = 0.016 \end{aligned}$$

d. Perhitungan Berat 40 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 400.49 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{400.49}{10} = 40.049 \text{ gram}$$

3) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 40.049 \text{ gram}$$

$$Y = 40 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 40.049 - 40 = 0.049 \end{aligned}$$

e. Perhitungan Berat 50 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 499.64 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

\bar{x} = rata-rata....?

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{499.64}{10} = 49.964 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 49.964 \text{ gram}$$

$$Y = 50 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 49.964 - 50 = 0.035 \end{aligned}$$

f. Perhitungan Berat 60 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 600.03 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

\bar{x} = rata-rata....?

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{600.03}{10} = 60.003 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 60.003 \text{ gram}$$

$$Y = 60 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned}\text{Koreksi} &= \bar{X} - Y \\ &= 60.003 - 60 = 0.003\end{aligned}$$

g. Perhitungan Berat 70 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 699.89 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{699.89}{10} = 69.989 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 69.989 \text{ gram}$$

$$Y = 70 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned}\text{Koreksi} &= \bar{X} - Y \\ &= 69.989 - 70 = 0.011\end{aligned}$$

h. Perhitungan Berat 80 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 799.90 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{799.90}{10} = 79.990 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 79.990 \text{ gram}$$

$$Y = 80 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 79.990 - 80 = 0.010 \end{aligned}$$

i. Perhitungan Berat 90 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 900.16 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata...?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{900.16}{10} = 90.016 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 90.016 \text{ gram}$$

$$Y = 90 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\text{Koreksi} = \bar{X} - Y$$

$$= 90.016 - 90 = 0.016$$

j. Perhitungan Berat 100 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 999.92 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{999.92}{10} = 99.992 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 99.992 \text{ gram}$$

$$Y = 100 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 99.992 - 100 = 0.008 \end{aligned}$$

k. Perhitungan Berat 110 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1100.36 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1100.36}{10} = 110.036 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 110.036 \text{ gram}$$

$$Y = 110 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 110.036 - 110 = 0.036 \end{aligned}$$

l. Perhitungan Berat 120 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1200.40 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata...?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1200.40}{10} = 120.040 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 120.040 \text{ gram}$$

$$Y = 120 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 120.040 - 120 = 0.040 \end{aligned}$$

m. Perhitungan Berat 130 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1300.43 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1300.43}{10} = 130.043 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 130.043 \text{ gram}$$

$$Y = 130 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 130.043 - 130 = 0.043 \end{aligned}$$

n. Perhitungan Berat 140 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1400.47 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1400.47}{10} = 140.047 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 140.047 \text{ gram}$$

$$Y = 140 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 140.047 - 140 = 0.047 \end{aligned}$$

o. Perhitungan Berat 150 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1500.07 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata....?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1500.07}{10} = 150.007 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 150.007 \text{ gram}$$

$$Y = 150 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 150.007 - 150 = 0.007 \end{aligned}$$

p. Perhitungan Berat 160 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1599.97 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata...?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1599.97}{10} = 159.997 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 159.997 \text{ gram}$$

$$Y = 160 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 159.997 - 160 = 0.003 \end{aligned}$$

q. Perhitungan Berat 170 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1700.44 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata...?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1700.44}{10} = 170.044 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 170.044 \text{ gram}$$

$$Y = 170 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 170.044 - 170 = 0.044 \end{aligned}$$

r. Perhitungan Berat 180 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1800.46 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

$$\bar{x} = \text{rata-rata...?}$$

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1800.46}{10} = 180.046 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 180.046 \text{ gram}$$

$$Y = 180 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 180.046 - 180 = 0.046 \end{aligned}$$

s. Perhitungan Berat 190 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1900.47 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

\bar{x} = rata-rata....?

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1900.47}{10} = 190.047 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 190.047 \text{ gram}$$

$$Y = 190 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned} \text{Koreksi} &= \bar{X} - Y \\ &= 190.047 - 190 = 0.047 \end{aligned}$$

t. Perhitungan Berat 200 gram

1) Rata-rata

$$\text{Rata-rata } \bar{x} = \frac{\sum xi}{n}$$

Diketahui :

$$\sum xi = 1999.88 \text{ (Hasil penjumlahan 10 data)}$$

$$n = 10$$

Ditanya :

\bar{x} = rata-rata....?

Jawab :

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{x} = \frac{1999.88}{10} = 199.988 \text{ gram}$$

2) Koreksi

$$\text{Koreksi} = \bar{X} - Y$$

Diketahui:

$$\bar{X} = 199.988 \text{ gram}$$

$$Y = 200 \text{ gram}$$

Ditanya :

Koreksi...?

Jawab :

$$\begin{aligned}\text{Koreksi} &= \bar{X} - Y \\ &= 199.988 - 200 = 0.012\end{aligned}$$

b. Perhitungan rata-rata massa tablet yang hilang

a) Alat friability tester penelitian

1) Mylanta

Diketahui :

X (Berat awal) : 13.846 gram

Y (Berat akhir) : 13.833 gram

Ditanya : \bar{X} ... ?

Jawab

$$\begin{aligned}\bar{X} &= \frac{X - Y}{X} \times 100 \\ \bar{X} &= \frac{13.846 - 13.833}{13.846} \times 100 = 0.093\%\end{aligned}$$

2) Promag

Diketahui :

X (Berat awal) : 14.818 gram

Y (Berat akhir) : 14.724 gram

Ditanya : \bar{X} ... ?

Jawab

$$\begin{aligned}\bar{X} &= \frac{X - Y}{X} \times 100 \\ \bar{X} &= \frac{14.818 - 14.724}{14.818} \times 100 = 0.634\%\end{aligned}$$

3) Paracetamol

Diketahui :

X (Berat awal) : 11.592 gram

Y (Berat akhir) : 11.485 gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{11.592 - 11.485}{11.592} \times 100 = 0.923\%$$

4) Asam Mefenamat

Diketahui :

X (Berat awal) : 12.819 gram

Y (Berat akhir) : 12.808gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{12.819 - 12.808}{12.819} \times 100 = 0.085\%$$

5) Reumachyil

Diketahui :

X (Berat awal) : 16.591 gram

Y (Berat akhir) : 16.505 gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{16.591 - 16.505}{16.591} \times 100 = 0.518\%$$

b) Alat friability tester pembanding

1) Mylanta

Diketahui :

X (Berat awal) : 13.811 gram

Y (Berat akhir) : 13.788 gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{13.811 - 13.788}{13.811} \times 100 = 0.166\%$$

2) Promag

Diketahui :

X (Berat awal) : 14.781 gram

Y (Berat akhir) : 14.687 gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{14.781 - 14.687}{14.781} \times 100 = 0.635\%$$

3) Paracetamol

Diketahui :

X (Berat awal) : 11.609 gram

Y (Berat akhir) : 11.495 gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{11.609 - 11.495}{11.609} \times 100 = 0.981\%$$

4) Asam Mefenamat

Diketahui :

X (Berat awal) : 12.909 gram

Y (Berat akhir) : 12.883gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{12.909 - 12.883}{12.909} \times 100 = 0.201\%$$

5) Reumachyil

Diketahui :

X (Berat awal) : 16.711 gram

Y (Berat akhir) : 16.606 gram

Ditanya : \bar{X} ... ?

Jawab

$$\bar{X} = \frac{X - Y}{X} \times 100$$

$$\bar{X} = \frac{16.711 - 16.606}{16.711} \times 100 = 0.628\%$$