1 Lab1

1.1 Step 1

$$
\begin{aligned}
x_n = x_{10} &= 10.000 \\
x_{arif} = \frac{x_1 + x_n}{2} &= \frac{1.000 + 10.000}{2} = 5.500 \\
x_{geom} = \sqrt{x_1 * x_n} &= \sqrt{1.000 * 10.000} = 3.162 \\
x_{garm} = \frac{2 * x_1 * x_n}{x_1 + x_n} &= \frac{2 * 1.000 * 10.000}{1.000 + 10.000} = 1.818
\end{aligned}
$$

1.2 Step 2

$$
\begin{aligned}
y_1^* = f(x_{arif}) &= f(5.500) = 6.102 \\
y_2^* = f(x_{geom}) &= f(3.162) = 4.436 \\
y_3^* = f(x_{garm}) &= f(1.818) = 2.701
\end{aligned}
$$

1.3 Step 3

$$
\begin{aligned}
y_n = y_{10} &= 7.908 \\
y_{arif} = \frac{y_1 + y_n}{2} &= \frac{1.000 + 7.908}{2} = 4.454 \\
y_{geom} = \sqrt{y_1 * y_n} &= \sqrt{1.000 * 7.908} = 2.812 \\
y_{garm} = \frac{2 * y_1 * y_n}{y_1 + y_n} &= \frac{2 * 1.000 * 7.908}{1.000 + 7.908} = 1.775
\end{aligned}
$$