NAME: SUNDAY WINNER CHIGOZIRIM

COURSE: ENG 282 (ENGINEERING MATHS)

MATRIC: 18/ENG05/057

DEPT: MECHATRONICS ENGINEERING

(i) Initial temperature = 10°c
After 5 mins, temperature = 20°c
After 5 mins, actual temperature = 25°c
System temperature = 24.9°c.

At 25°c actual temperature → thermometer shows 20°c
$\frac{24.9 \times 25}{20}$ ← At 24.9°c

∴ actual temperature when thermometer reading is 24.9°c
= 31.2°c.

if it takes 5 minutes for a 15°c jump in temperature ... (31.2 − 24.9) = 6.3°c

15°c → 5mins
1°c → $\frac{1 \times 5}{15}$ = 0.333 mins

~~∴ 1°c → $\frac{1 \times 5}{15}$ =~~ 1°c → 0.333 mins
31.2°c → 10.4 mins.

∴ It takes about 10 minutes and 24 seconds to increase temperature from zero to 24.9°c.

Time taken ⇒ 10 mins, 24 seconds.

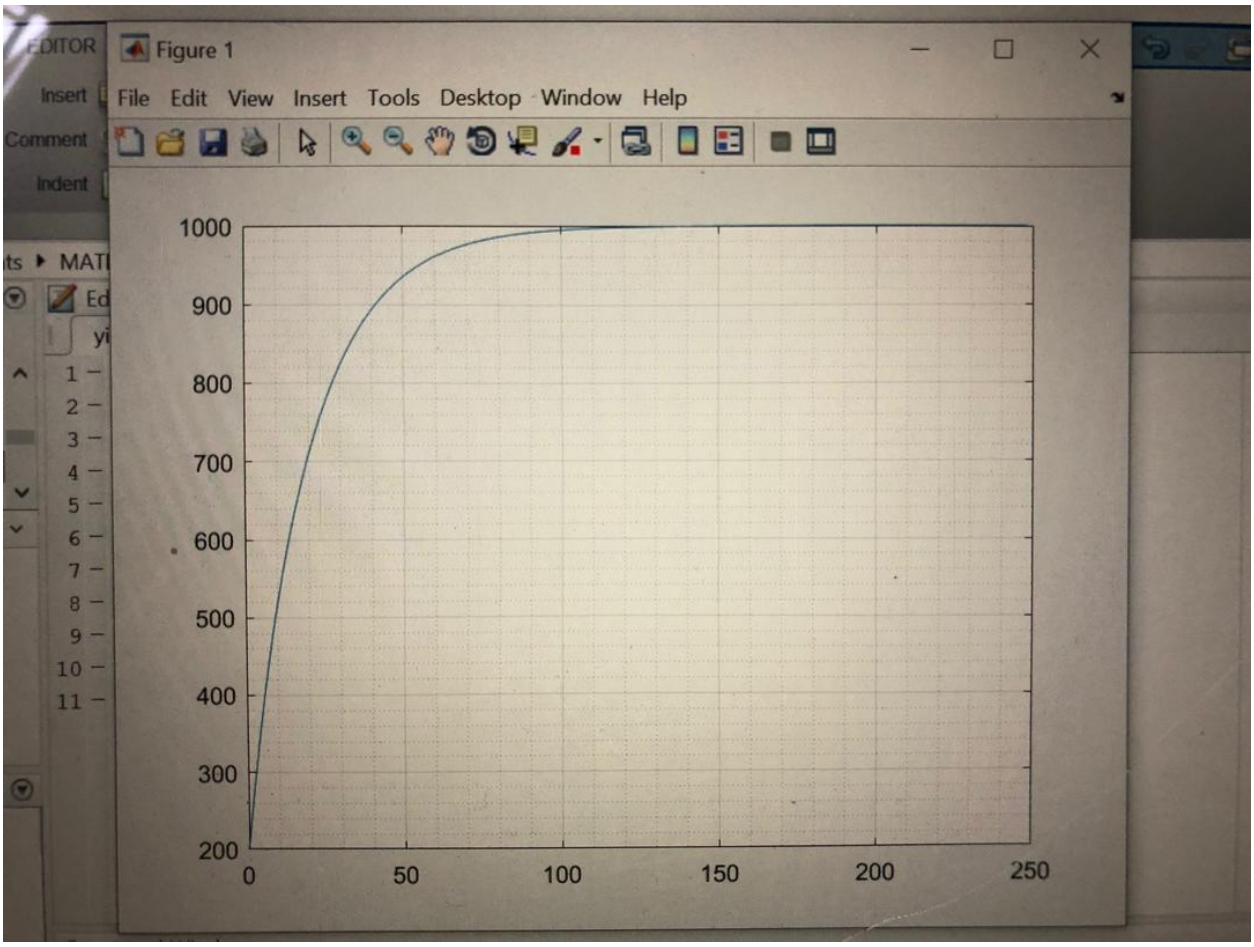
Figure 1
File Edit View Insert Tools Desktop Window Help
1000
900
800
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250