**ASSIGNMENT 2**

1.

If 80.02kg of oil was collected in 25 seconds, therefore mass flowrate,

Re < 2000, therefore the flow is laminar

Using Hagen-Pouseille equation: ; u=V

b)

2.

c)

Re > 4000, therefore the flow is turbulent



**ASSIGNMENT 3**

1.

Re < 2000, therefore the flow is laminar

b)

2.

1. Rate of flow of oil, Q = A

Nature of flow

Re < 2000, therefore the flow is laminar

1. Centre line velocity,

= 2

1. Total frictional drag,
2. Power required to maintain the flow,
3. Velocity gradient at the pipe wall

, @ y = 0

1. Velocity at 60 mm from the wall,
2. Shear stress at 60 mm from the wall