Applications of Linear Equations (adapted from student text: Foundations and Pre-Calculus Mathematics 10 By Pearson)

- 1. Each graph below shows distance, d kilometers, as a function of time, t hours. For each graph:
 - Determine the coordinates of the x and y intercepts i.
 - ii. Determine the rate of change



63

54

45

0

covered (m²)



2. The graph shows the area, A square meters, that paint covers as a function of its volume, V litres.



V

Volume (L)

- What is the rate of change and what does it represent?
- What area is covered by 3 litres of paint?
- How much paint is needed to cover 54 m²?

3. The capacity of each of 2 fuel storage tanks is 100 m³. Graph A shows the volume of fuel in one tank as a function of time as the tank is being filled. Graph B shows the volume of fuel in the other tank as a function of time as the tank is being emptied.



- i. Does it take longer to fill the empty tank or to empty the full tank? Explain your answer.
- In the time it takes for one tank to be half empty, about how much fuel would be in a tank ii. that was being filled from empty?