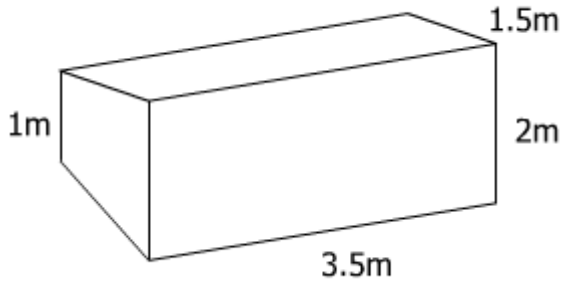
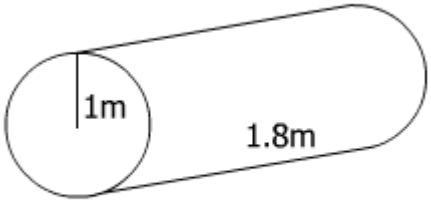
Fuel Calculation Answers
TDMMR5407B

Tank A	Tank B
	
1. How many litres of fuel are in the tank when it is at 95% capacity? Volume = Length x (Width at the top + Width at the bottom/2 x Height Volume = 3.5 x (2+1)/2 x 1.5 Volume =7.875m^3 x1000 Volume =7875L Fuel Volume = 7875x0.95 = 7481L	1. How many litres of fuel are in the tank when it is at 95% capacity? Volume = Length x 3.1416 x Radius x Radius Volume =1.8 x 3.1416 x 1 x 1 Volume =5.655m^3 x1000 Volume =5655L Fuel Volume = 5655x0.95 = 5372L
2. Given a specific gravity of 0.86 for diesel fuel, what do the tank contents weigh? Weight of Liquid Substance = Volume of Liquid Substance x Specific Gravity of Substance Weight of Liquid Substance = 7481 x 0.86 Weight of Liquid Substance = 6434 Kg	2. Given a specific gravity of 0.86 for diesel fuel, what do the tank contents weigh? Weight of Liquid Substance = Volume of Liquid Substance x Specific Gravity of Substance Weight of Liquid Substance = 5372 x 0.86 Weight of Liquid Substance = 4620 Kg
3. If a vessel is steady steaming at 12 knots and records show that with steady steaming the average consumption of the ship is 65 litres per hour. Ignoring weather, if the tank at 95% capacity, how far can you steam at this speed before the tank is 25% full? Fuel Consumed = 7875 x (0.95 - 0.25) = 5513 L Time taken to Consume Fuel = Amount of Fuel/Consumption Rate = 5513/65 = 85 hours Distance Traveled in the time taken to Consume Fuel = 85 hours x 12 knots = 1020 Nautical Miles	3. If a vessel is steady steaming at 12 knots and records show that with steady steaming the average consumption of the ship is 65 litres per hour. Ignoring weather, if the tank at 95% capacity, how far can you steam at this speed before the tank is 25% full? Fuel Consumed = 5655 x (0.95 - 0.25) = 3959 L Time taken to Consume Fuel = Amount of Fuel/Consumption Rate = 3959/65 = 61 hours Distance Traveled in the time taken to Consume Fuel = 61 hours x 12 knots = 732 Nautical Miles

4. If a vessel is steady steaming at 12 knots and records show that with steady steaming the average consumption of the ship is 65 litres per hour. Ignoring weather, if the tank is at 95% capacity and you steam 240 nautical miles at this speed, how much fuel will remain in the tank? Time taken to Consume Fuel = Distance Traveled/Speed = 240/12 = 20 hours Fuel Consumed = Time Traveled x Consumption Rate= 20 x 65 = 1300 Litres Remaining Fuel in Tank = 7481-1300 = 6181 L Capacity Remaining in Tank = Fuel Left / Tank Capacity = 6181/7875 = 79%	4. If a vessel is steady steaming at 12 knots and records show that with steady steaming the average consumption of the ship is 65 litres per hour. Ignoring weather, if the tank is at 95% capacity and you steam 240 nautical miles at this speed, how much fuel will remain in the tank? Time taken to Consume Fuel = Distance Traveled/Speed = 240/12 = 20 hours Fuel Consumed = Time Traveled x Consumption Rate = 20 x 65 = 1300 Litres Remaining Fuel in Tank = 5655 - 1300 = 4355 L Capacity Remaining in Tank = Fuel Left / Tank Capacity = 4355/5655 = 77%