

Measure, compare, add and subtract volume/capacity.

Keep the Ship Afloat: First Mate Maths.



This is your Captain speaking, as the 'First Mate' of this boat it is your main job to keep us afloat. Keep an eye on the computer display and answer any questions I have. Good luck and don't fall asleep.



OK 'First Mate' your first job is to look at the fuel gauges , unfortunately the system has glitched, can you work out how much fuel is in each tank?

The slop and sewer gauges also need looking at.

What is the consumption of fuel per hour? _____

How many litres (l) of fuel is used in 2 hours? _____

I will take us 5 hours to get to our destination, we have 393 litres of fuel, I think that is enough to get us to our destination, am I right or wrong? Explain why.

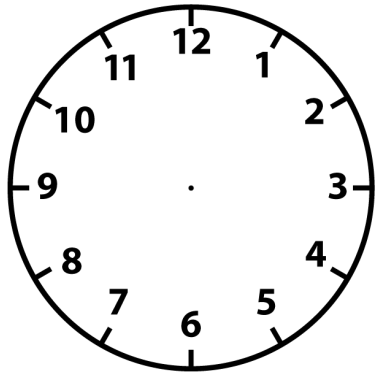
What other information can you get from this display?

OK, 'First Mate' Can you please show this time on an analogue clock.

It takes us 5 hours to get to our destination, what time will we arrive?

_____ :

_____ :



Keep the Ship Afloat: First Mate Maths 2.



A great first day on the job 'First Mate' but we need to keep our wits about us today as anything can happen at sea



OK 'First Mate' our fuel display has been upgraded but it is still having problems showing how many litres are in each tank, can you fill these in please.

What is the difference in amounts of fuel between the two tanks?

If we use 500 litres of diesel a day, how long will it be before the stbd tank is empty?



OK, 'First Mate' we are also having complications with the water tanks, can you read the gauges and fill in the amounts please.

We use about 100 litres of fresh water each day, how long will it be before we have to fill the fresh water tank again? _____

How long is this in hours?

What do you recommend we do with the 'sewage water' tank, you need to give me a good reason why. _____

The slop water has risen 150 litres what level is it at now? _____



Measure, compare, add and subtract volume/capacity.

Keep the Ship Afloat: First Mate Maths 3.



I am so sorry 'First Mate', we have a real problem our 'Power Supply' display has crashed and it is so important to know we have the current power supply, can you read the gauges and fill in the amounts please?

Try to be as accurate as possible, it is very important.

Which generator is using the most current? _____

What can you tell us about the battery voltage? _____

The dashboard displays the following data:

- Engine Speed Port:** 1783 1/min
- Main Coolant Temperature:** 91 °C
- Main Oil Pressure:** 3.6 bar
- Engine Speed Stbd.:** 1783 1/min
- Generator 1:**
 - Voltage: 280 V
 - Current: 35 A
 - Frequency: 50 Hz
 - Power: 10 kW
 - Lube-Oil Pressure: 2.8 bar
 - Coolant Temp.: 78 °C
 - Battery Voltage: 25 V
- 230V Power:**
 - Voltage: 230 V
 - Current: 40 A
 - Power: 10 kW
 - 230 Volt Isolation: FAULT
 - 400 Volt Isolation: FAULT
 - Shore Power Current: 45 A
- Generator 2:**
 - Voltage: 280 V
 - Current: 35 A
 - Frequency: 50 Hz
 - Power: 10 kW
 - Lube-Oil Pressure: 2.9 bar
 - Coolant Temp.: 80 °C
 - Battery Voltage: 25 V
- Summary Data:**
 - Speed Over Ground: 21.4 kn
 - Total Consumption: 131 l/h
 - Range: 1240 sm
 - Time: 08:59
 - Date: 08.10.2010

Keep the Ship Afloat: First Mate Maths 4.



You have done a great job so far 'First Mate' and we are nearly at our destination but the temperature gauges are playing up. Can you take a look at them and let me know the temperatures in degrees centigrade please (C).

Are you worried about the heat of any of the gauges? If so which ones and why?

How much do we need the change the heat of each of the dangerous gauges before we are safe again?

