

**DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)**

**HOME SCHOOLING SELF-STUDY WORKSHEET**

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| **SUBJECT** | Nautical Science | **GRADE** | 12 | **DATE** | 14/4/20 |
| **TOPIC** | SEAMANSHIP | **TERM 1**  **REVISION** | X | **TERM 2 CONTENT** | X |
| **TIME ALLOCATION** | 40min | **TIPS TO KEEP HEALTHY**  1. **WASH YOUR HANDS** thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%.  2. **PRACTICE SOCIAL DISTANCING** – keep a distance of 1m away from other people.  3. **PRACTISE GOOD RESPIRATORY HYGIENE**: cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use.  4. **TRY NOT TO TOUCH YOUR FACE.** The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick.  5. **STAY AT HOME.** | | | |
| **INSTRUCTIONS** | This worksheet is to be completed in your MRTE exercise/activity book.  All work done on the chart must be done lightly using a 2B pencil.  Courses and bearings and corrections must be calculated to the nearest ½° and plotted to a similar accuracy.  Variation of 17° W is applicable where required.  Scientific calculators may be used.  Nautical tables may be used. |

**QUESTION 10**

List ten action points to be taken on the bridge of a ship when a person falls overboard whilst underway during the daytime.

Your answer must prioritise the most urgent actions.

**[10]**

**QUESTION 11**

* 1. Sketch a vessel in cross section showing it with a starboard heel.
     1. Stable equilibrium (+GM); (5)
     2. Unstable equilibrium (-GM); (5)
     3. Neutral equilibrium (ØGM). (5)

Show the keel position, centre of buoyancy, centre of gravity and metacentre of the vessel in each of the sketches above.

* 1. What makes a ship "heel" to starboard? (1)
  2. What makes a ship "list" to port? (1)

11.4 Define "Gross tonnage". (3)

**[20]**