Province of the
EASTERN CAPE
EDUCATION

DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)

HOME SCHOOLING SELF-STUDY WORKSHEET

<table>
<tr><td>SUBJECT</td><td>AUTOMOTIVE</td><td>GRADE</td><td>10</td><td>DATE</td><td>JULY 2020</td></tr>
<tr><td>TOPIC</td><td>FORCES</td><td>TERM 1 REVISION</td><td>()</td><td>TERM 2 CONTENT</td><td>(√)</td></tr>
<tr><td>TIME ALLOCATION</td><td>2 hrs.</td><td colspan="4" rowspan="2"><u>TIPS TO KEEP HEALTHY</u>

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.</td></tr>
<tr><td>INSTRUCTIONS</td><td></td></tr>
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QUESTION 1

1 (a) Define a force.

(b) With the aid of sketches, give the 3 types of forces as used in Automotive.

Question 2

(a) Define a moment.
(b) What is the unit of a moment?
(c) State the principle of moments.

QUESTION 3

(a) A moment is a turning effect and it depends on two things:

i. ……

ii. ……

(b) Given the three scenarios representing a spanner in the table below, calculate the moment in each of the three scenarios and indicate the type of moment as either Clockwise or Anti-clockwise.

If given that:

Scenario 1, A force of 10N is applied at 30cm from the pivot.

Scenario 2, A force of 10N is applied at 15cm from the pivot.

Scenario 3, A force of 10N is applied at 60cm from the pivot.

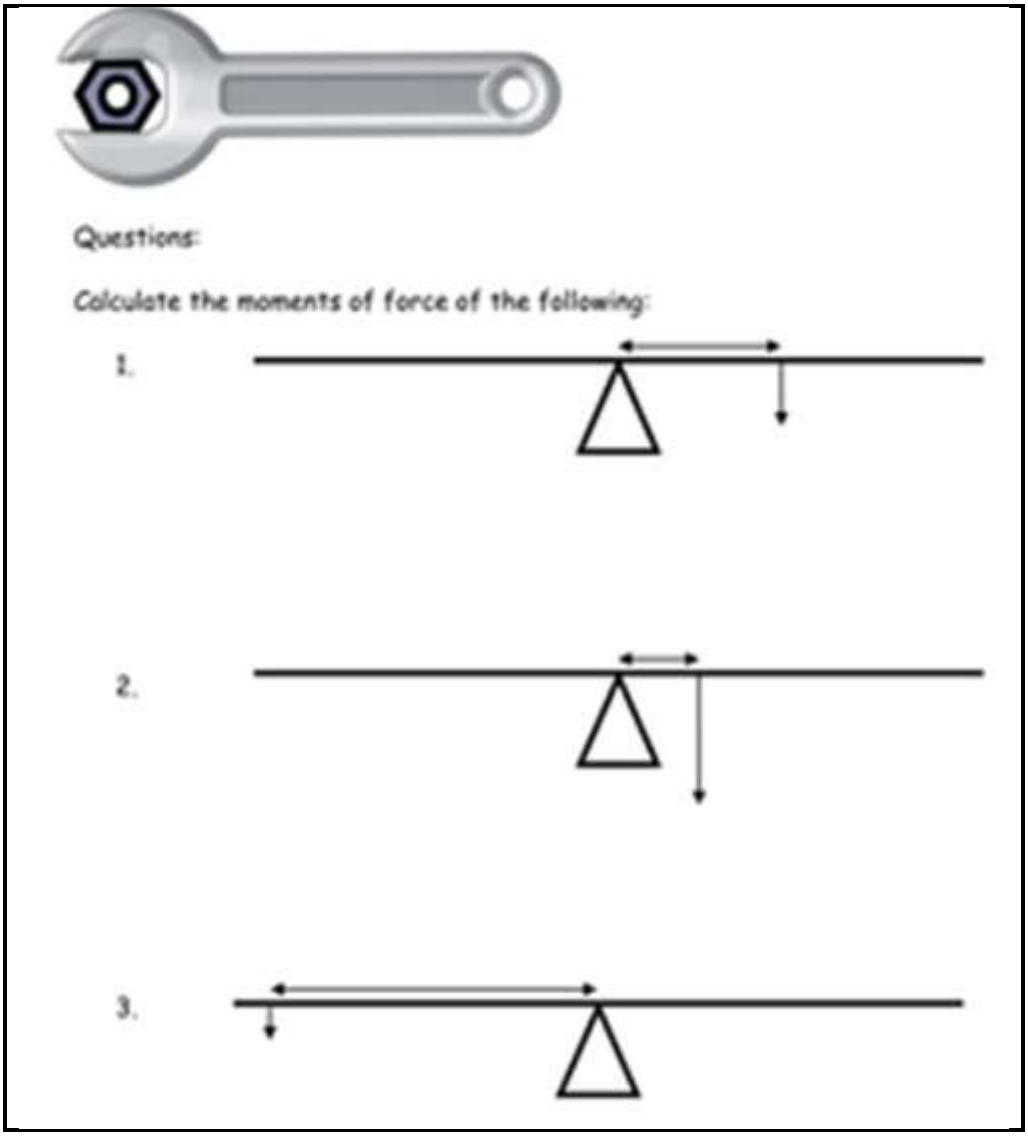

Table 1

QUESTION 4

Determine both the Clockwise moment and Anti – clockwise moment given Figure 1 below. Comment on whether the body will remain in a balanced state.

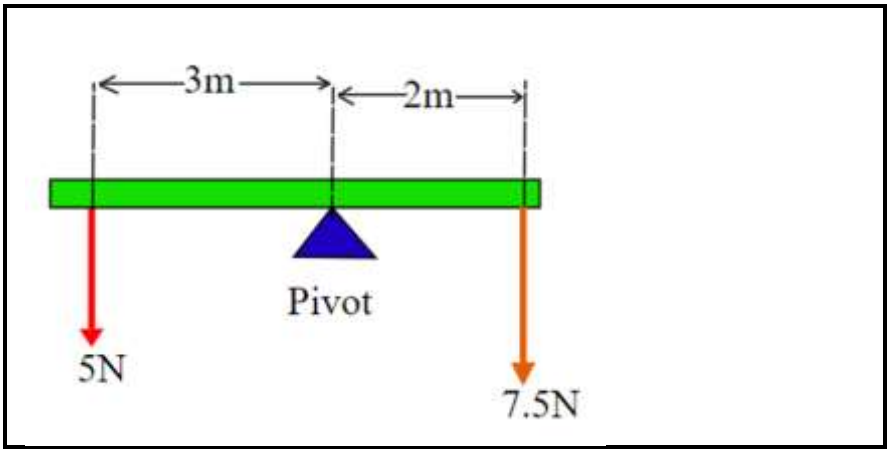

Figure 1

QUESTION 5

Find the value of F_2, if the lever in Figure 2 below has to be in a state of equilibrium.

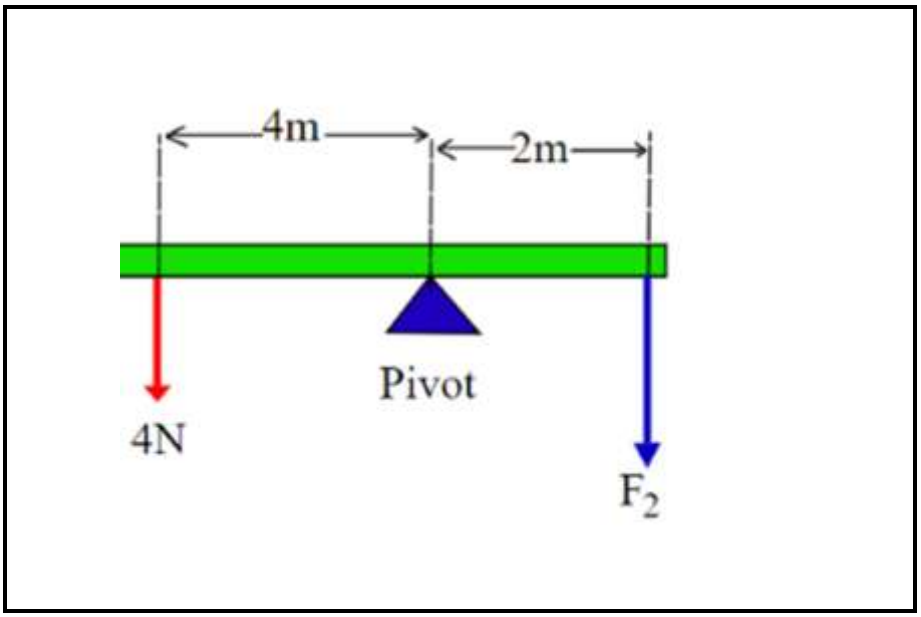

Figure 2