Prior Knowledge Review

1. State the definition of:
   - **a.** A force

     _____

     _____

   - **b.** Balanced forces

     _____

     _____

   - **c.** Resultant force

     _____

     _____

   - **d.** Contact force

     _____

     _____

   - **e.** Non-contact force

     _____

     _____

   - **f.** Friction

     _____

     _____

   - **g.** Mass

     _____

     _____

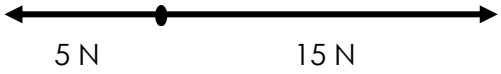
   - **h.** Weight

     _____

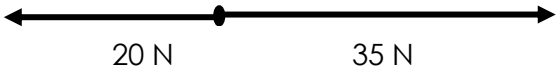
     _____

2. State whether the following pairs of forces are balanced or unbalanced and calculate the resultant force in each case:

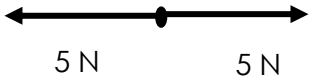
a.



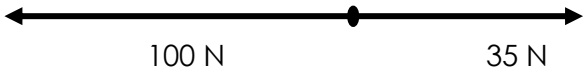
b.



c.



d.



3. Objects have different weights in different parts of the solar system.

a. State the equation used to calculate weight.

b. Complete the following table to show the masses and weights of objects in different parts of the solar system:

Take the gravitational field strength of the Moon as 1.6 N/kg.

Mass	Weight on Earth	Weight on the Moon
50 kg		
	800 N	
		48 N

4.

a. State the definition of speed.

_____

_____

b. State the equation used to calculate speed with the SI units for each quantity.

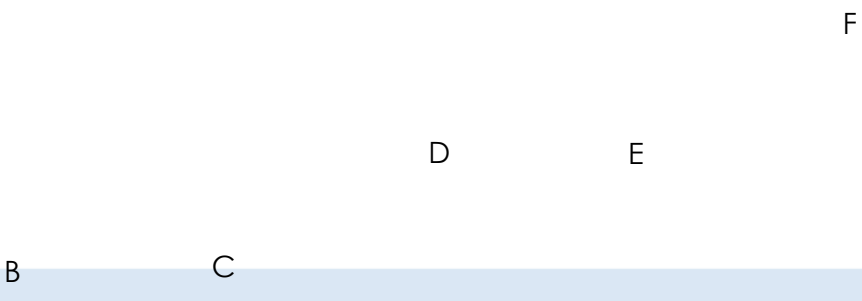
c. Calculate the speed of a person who runs a 200 m race in 25 seconds.

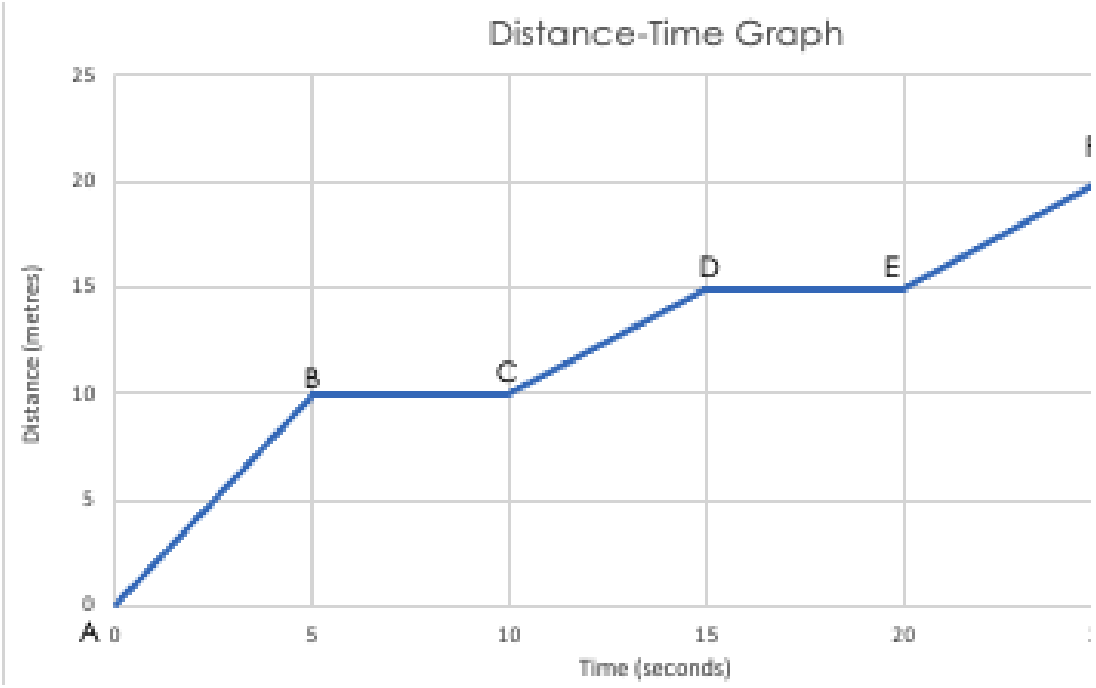
d. Calculate how long it takes a car to drive 1000 m at 20 m/s.

e. Calculate how far a cyclist can travel in 1 minute at 15 m/s.

f. Calculate how fast an aeroplane is travelling if it covers 3 km in 12 seconds.

5. Use the following distance-time graph to answer the questions below:





a. Between which points in the graph is the object stationary?

b. Between which points in the graph does the object have the greatest speed?

c. Describe the motion during each stage of this journey

i. A-B

ii. B-C

iii. C-D

iv. D-E

v. E-F