

Name: _____

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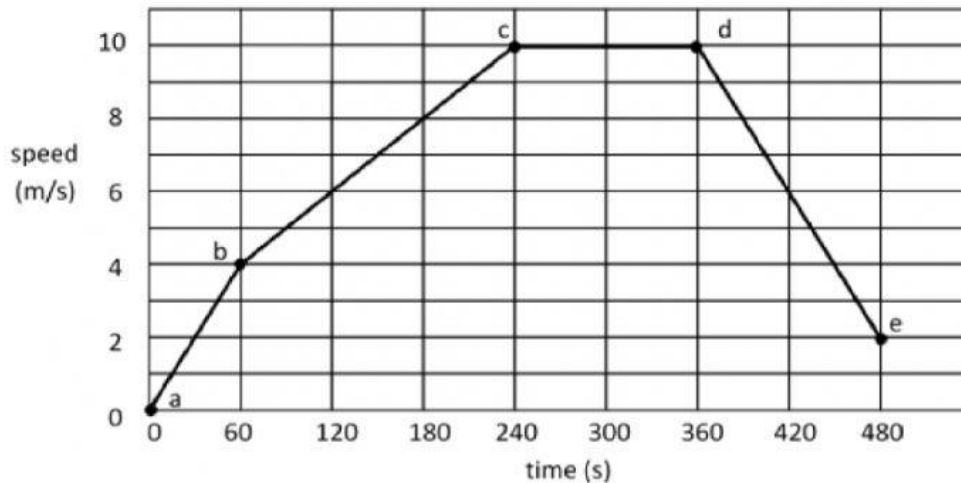
Program, Year & Section: _____

Date: _____

Worksheet 5a

Graphical Analysis of Motion

Study the graph below to complete the table.



From a to b

Initial speed: $v_i = \frac{m}{s}$

Final speed: $v_f = \frac{m}{s}$

Average speed: $v_{ave} = \frac{v_i + v_f}{2}$

$$v_{ave} = \frac{\frac{m}{s} + \frac{m}{s}}{2}$$

$$v_{ave} = \frac{m}{s}$$

Acceleration: $a = \frac{v_f - v_i}{t}$

$$a = \frac{\frac{m}{s} - \frac{m}{s}}{s}$$

$$a = \frac{m}{s^2}$$

Distance covered: $d = v_i t + \frac{at^2}{2}$

$$d = \left(\frac{m}{s} \right) (s) + \frac{\left(\frac{m}{s^2} \right) (s)^2}{2}$$

$$d = m$$

From b to c

Initial speed: $v_i = \frac{m}{s}$

Final speed: $v_f = \frac{m}{s}$

Average speed: $v_{ave} = \frac{v_i + v_f}{2}$

$$v_{ave} = \frac{\frac{m}{s} + \frac{m}{s}}{2}$$
$$v_{ave} = \frac{m}{s}$$

Acceleration: $a = \frac{v_f - v_i}{t}$

$$a = \frac{\frac{m}{s} - \frac{m}{s}}{s}$$
$$a = \frac{m}{s^2}$$

Distance covered: $d = v_i t + \frac{at^2}{2}$

$$d = \left(\frac{m}{s} \right) (s) + \frac{\left(\frac{m}{s^2} \right) (s)^2}{2}$$
$$d = m$$

From c to d

Initial speed: $v_i = \frac{m}{s}$

Final speed: $v_f = \frac{m}{s}$

Average speed: $v_{ave} = \frac{v_i + v_f}{2}$

$$v_{ave} = \frac{\frac{m}{s} + \frac{m}{s}}{2}$$
$$v_{ave} = \frac{m}{s}$$

Acceleration: $a = \frac{v_f - v_i}{t}$

$$a = \frac{\frac{m}{s} - \frac{m}{s}}{s}$$
$$a = \frac{m}{s^2}$$

Distance covered: $d = v_i t + \frac{at^2}{2}$

$$d = \left(\frac{m}{s} \right) (s) + \frac{\left(\frac{m}{s^2} \right) (s)^2}{2}$$
$$d = m$$
$$d = m$$

From d to e

Initial speed: $v_i = \frac{m}{s}$

Final speed: $v_f = \frac{m}{s}$

Average speed: $v_{ave} = \frac{v_i + v_f}{2}$

$$v_{ave} = \frac{\frac{m}{s} + \frac{m}{s}}{2}$$

$$v_{ave} = \frac{m}{s}$$

Acceleration: $a = \frac{v_f - v_i}{t}$

$$a = \frac{\frac{m}{s} - \frac{m}{s}}{s}$$

$$a = \frac{m}{s^2}$$

Distance covered: $d = v_i t + \frac{at^2}{2}$

$$d = \left(\frac{m}{s} \right) (s) + \frac{\left(\frac{m}{s^2} \right) (s)^2}{2}$$

$$d = m$$