Name _____ Class _____ Date _____

Assessment

The Science of Physics

Section Quiz: The Language of Physics

Write the letter of the correct answer in the space provided.

TABLE 1 DATA FROM HEATING EXPERIMENT

Time (s)	Substance A Temp (°C)	Substance B Temp (°C)
0.0	22.8	22.8
10.0	25.9	23.5
20.0	32.4	24.1
30.0	45.1	24.9

_____ **1.** Based on the data from Table 1, which of the following statements is correct?

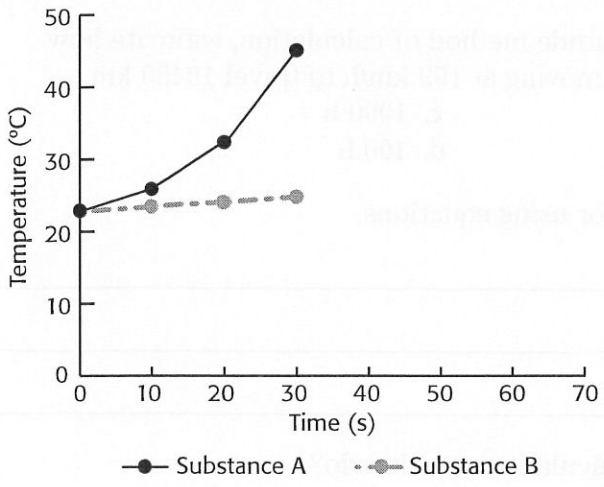
a. The temperature increased equally during each time period for both substances.

b. There is no relationship between heating time and temperature for either substance.

c. As time increased, the temperature increased for both substances.

d. none of the above

GRAPH 1 DATA FROM HEATING EXPERIMENT



_____ **2.** What does Graph 1 show about the heating rate of substance A versus substance B?

a. Compared to substance B, substance A has a faster heating rate.

b. Compared to substance A, substance B has a slower heating rate.

c. Substance A and B heat at different rates.

d. all of the above

_____ **3.** Which of the following equations best shows the average relationship between temperature and time for substance B as given in Table 1 and Graph 1?

a. $\Delta T = 0.07(\Delta t)$
b. $\Delta T = 0.07(\Delta t)^2$
c. $(\Delta T)^2 = 0.7(\Delta t)$
d. $\Delta T = 7.4(\Delta t)$

_____ **4.** What does the symbol Δm represent?

a. change in mass
b. change in meters
c. difference in motion
d. distance in meters

_____ **5.** What is the standard abbreviation for seconds?

a. sec
b. s
c. sds
d. t

_____ **6.** All of the following are unit abbreviations *except* which one?

a. m
b. kg
c. Δy
d. s

_____ **7.** If the final answer's dimension is to be in length, which of the following operations is correct?

a. (time/length) × time
b. time × (length/time)
c. (time × length) − length
d. length × (length/time)

_____ **8.** Using the order-of-magnitude method of calculation, estimate how long it would take a car moving at 109 km/h to travel 10450 km.

a. 100 000 h
b. 10 000 h
c. 1000 h
d. 100 h

9. Name at least two advantages for using equations.

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_____

10. What are order-of-magnitude calculations used to do?

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