Name _____ Class _____ Date _____

11.2 MSPSW ANSWER KEY

Practice Exercises

Exercise 1: In a boat race, Dan drove his motorboat over the 1000-meter course from start to finish in 40 seconds. What was Dan's average speed during the race?

$d = 1000\text{m}$
$t = 40\text{s}$
$v = ?$

$$v = \frac{d}{t} = \frac{1000\text{m} - 0\text{m}}{40\text{s}} = \frac{1000\text{ m}}{40\text{s}} = \boxed{25\ \frac{\text{m}}{\text{s}}}$$

Exercise 2: It takes Serina 0.25 hour to drive to school. Her route is 16 km long. What is Serina's average speed on her drive to school?

$t = .25\text{h}$
$d = 16\text{km}$
$v = ?$

$$v = \frac{d}{t} = \frac{16\text{km}}{.25\text{h}} = \boxed{64\ \frac{\text{km}}{\text{h}}}$$

Exercise 3: In a competition, an athlete threw a flying disk 139 meters through the air. While in flight, the disk traveled at an average speed of 13.0 m/s. How long did the disk remain in flight?

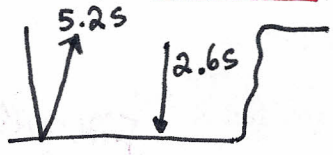
$d = 139\text{m}$
$v = 13\ \frac{\text{m}}{\text{s}}$
$t = ?$

$$v = \frac{d}{t} \qquad t = \frac{d}{v} = \frac{139\ \text{m}}{13\ \frac{\text{m}}{\text{s}}} = \boxed{10.692\text{s}}$$

10.7s

Exercise 4: If you shout into Grand Canyon, your voice travels at the speed of sound (340 m/s) to the bottom of the canyon and back, and you hear an echo. How deep is the Grand Canyon in a spot where you can hear your echo 5.2 seconds after you shout?

$v = 340\ \frac{\text{m}}{\text{s}}$
$t = 2.6\text{s}$
$d = ?$



$$d = vt$$
$$= 340\ \frac{\text{m}}{\text{s}}\left(2.6\ \frac{\text{s}}{1}\right) = \boxed{884\text{m}}$$

884m

Exercise 5: Sound travels much faster in water than air. It takes 4.2 seconds for the sound of an explosion to travel underwater to a diver 6,006 m away. What is the speed of sound in water?

$t = 4.2\text{s}$
$d = 6006\text{m}$
$v = ?$

$$v = \frac{d}{t} = \frac{6006\text{ m}}{4.2\text{s}} = \boxed{1430\ \frac{\text{m}}{\text{s}}}$$

1430 $\frac{\text{m}}{\text{s}}$

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