

## W.1 Characterizing Waves

Practice Worksheet — name: \_\_\_\_\_ date: \_\_\_\_\_

### FORMULAS FOR THIS TOPIC

WAVE EQUATION  $v = f\lambda$       PERIOD  $T = \frac{1}{f}$

### SECTION A — MULTIPLE CHOICE

**A1.** What is the unit of frequency?

- (A) Meters
- (B) Seconds
- (C) Hertz
- (D) Newtons

**A2.** A wave has a frequency of 50 Hz and a wavelength of 6 meters. What is its velocity?

- (A)  $0.12 \text{ m/s}$
- (B)  $8.33 \text{ m/s}$
- (C)  $300 \text{ m/s}$
- (D)  $3000 \text{ m/s}$

### SECTION B — SHORT ANSWER

**B1.** Define wavelength.

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**B2.** What is the difference between transverse and longitudinal waves?

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## ANSWER KEY

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### Section A

**A1:** Hertz

**A2:**  $300\text{ m/s}$

### Section B

**B1:** Wavelength is the distance between two consecutive peaks or troughs of a wave.

**B2:** In transverse waves, particle oscillations are perpendicular to the direction of wave propagation (e.g. light). In longitudinal waves, oscillations are parallel (e.g. sound).