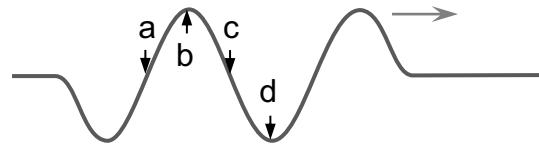

PHYS 1110 Worksheet: Waves

1. A child on a playground swing makes a complete to-and-fro swing every 2 seconds.
 - A. What is the frequency of the swing?
 - B. What is the period of the swing?
 - C. What is the angular frequency ω of its oscillation?
2. A wave generator produces 10 pulses each second. The pulses travel at 300 cm/s.
 - A. What is the period of the waves?
 - B. What is the wavelength of the waves?

3. A transverse wave is illustrated at right.

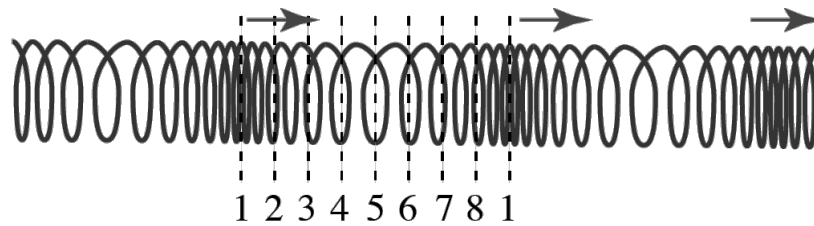


- A. Identify the velocity and acceleration of the segments of the medium at the indicated positions.

velocity		acceleration	
a.			
b.			
c.			
d.			

- B. Does the direction of propagation affect the velocity?
- C. Does the direction of propagation affect the acceleration?

4. A longitudinal wave is illustrated below.



- A. What are the velocity and acceleration of the spring segments at positions 1–8?

	velocity	acceleration
1		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

- B. Does the direction of propagation affect the velocity?

- C. Does the direction of propagation affect the acceleration?