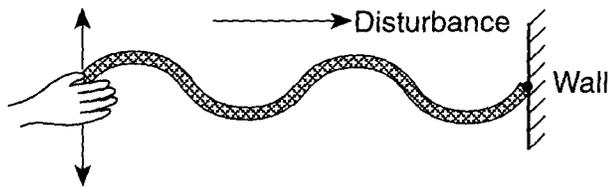
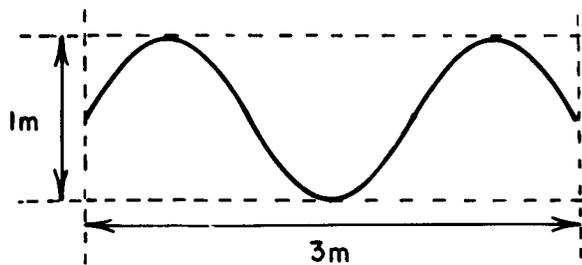


1. The diagram below shows a person shaking the end of a rope up and down, producing a disturbance that moves along the length of the rope.

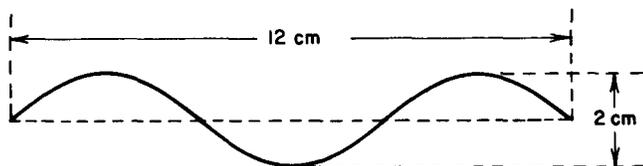


Which type of wave is travelling in the rope?

- (1) torsional (3) transverse
(2) longitudinal (4) elliptical
2. What is the wavelength of the wave shown in to diagram below?

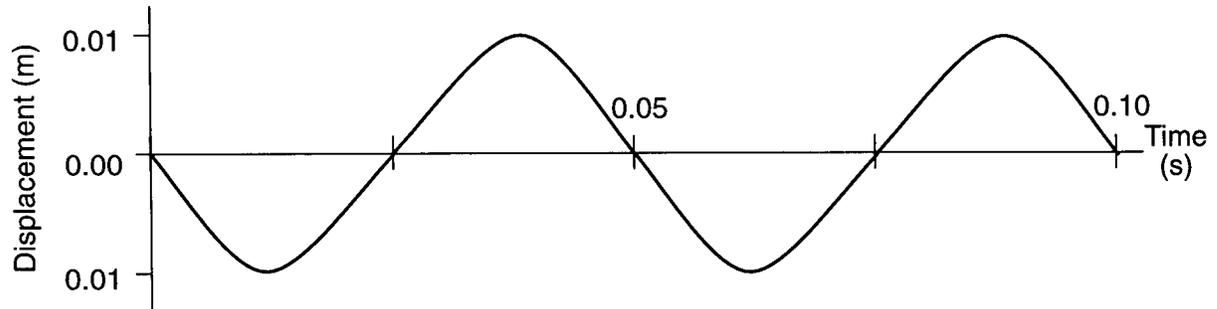


- (1) 1 m (3) 3 m
(2) 2 m (4) 0.5 m
3. What is the amplitude of the wave in the diagram Shown below?



- (1) 1 cm (3) 12 cm
(2) 2 cm (4) 4 cm

4. The graph below shows displacement versus time for a particle of a uniform medium as a wave passes through the medium.



What is the frequency of the wave?

- (1) 10 Hz (2) 20 Hz (3) 50 Hz (4) 100 Hz

5. As the period of a wave decreases, the wave's frequency

- (1) decreases (3) remains the same
(2) increases

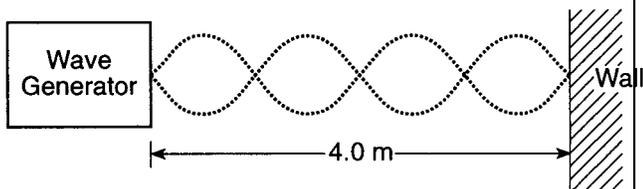
6. What is the velocity of a wave having a frequency of 25 cycles per second and a wavelength of 10 meters?

- (1) 2.5 m/s (3) 35 m/s
(2) 15 m/s (4) 250 m/s

7. The rate at which a wave travels from one point to another determines the wave's

- (1) frequency (3) amplitude
(2) period (4) velocity

8. A wave generator located 4.0 meters from a reflecting wall produces a standing wave in a string, as shown in the diagram below.



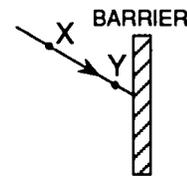
If the speed of the wave is 10. meters per second, what is its frequency?

- (1) 0.40 Hz (3) 10. Hz
(2) 5.0 Hz (4) 40. Hz

9. As two trucks approach each other, the driver of one truck sounds his horn. Compared to the true frequency of the horn when the trucks are stationary, the frequency heard by the other driver will be

- (1) lower (3) the same
(2) higher

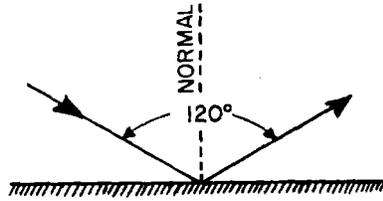
10. The diagram below shows the direction of water waves moving along path XY toward a barrier.



Which arrow represents the direction of the waves after they have reflected from the barrier?

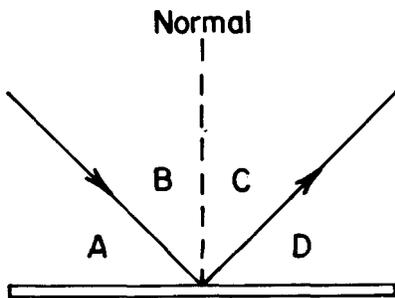
- (1) ← (3) ↙
(2) ↙ (4) ↘

11. What is the angle of incidence of the light ray shown below?



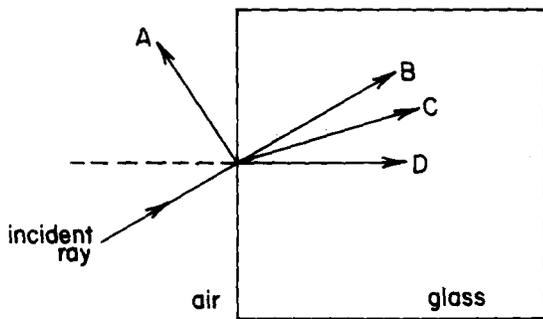
- (1) 30°
- (2) 60°
- (3) 90°
- (4) 150°

12. The diagram below shows a ray of light being reflected from a plane mirror. Which letter indicates the angle of reflection?



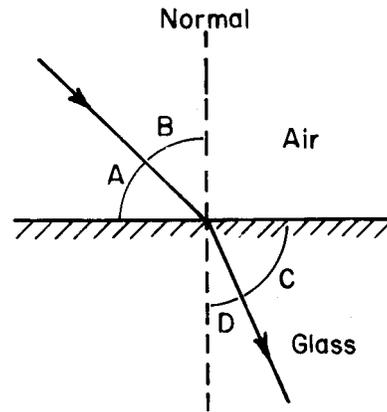
- (1) *A*
- (2) *B*
- (3) *C*
- (4) *D*

13. In the diagram below a light ray passes obliquely from air into a glass block. Which path represents the refracted ray of light?



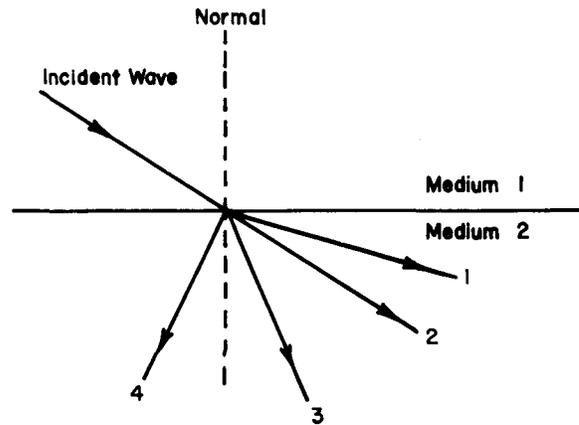
- (1) *A*
- (2) *B*
- (3) *C*
- (4) *D*

14. The diagram below shows a ray of light being refracted as it passes from air into glass. Which letter represents the angle of refraction for the light ray?



- (1) *A*
- (2) *B*
- (3) *C*
- (4) *D*

15. As represented in the diagram below, the speed of a wave increases as it passes from medium 1 into medium 2. Which arrow best represents the direction of the wave in medium 2?



- (1) 1
- (2) 2
- (3) 3
- (4) 4

Answer Key

1. 3

2. 2

3. 1

4. 2

5. 2

6. 4

7. 4

8. 2

9. 2

10. 3

11. 2

12. 3

13. 3

14. 4

15. 1
