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NPTEL

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Courses » Acoustic and Noise Control

Announcements Course Ask a Question Progress Mentor

Unit 3 - Week-2

Course outline

How to access the portal

Week-1

Week-2

- Lecture 4- Governing Equation 2
- Lecture 5-Plane Wave 1
- Lecture 6-Plane Wave 2
- Quiz : Week 2 - Assignment 2
- Feedback for Week 2
- Solutions of week 2 assignment 2

Week-3

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Week-12

MATLAB

Week 2 - Assignment 2

The due date for submitting this assignment has passed. **Due on 2017-08-09, 23:55 IST.**

Submitted assignment

1) For plane waves, the acoustic variables such as pressure, density, and velocity 1 point

- Varies at different points in the plane
- Does not vary at different points in the plane
- Vary normal to the plane
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Vary normal to the plane

2) For adiabatic process, the value of k in the thermodynamic relation $PV^k = C$ is 1 point

- 0
- 1
-
- $\frac{C_p}{C_v}$
- Infinity

No, the answer is incorrect.

Score: 0

Accepted Answers:

$\frac{C_p}{C_v}$

3) Under STP, sound travels at a speed of 340m/s in air. We have defined a new time frame(τ) which is equivalent to 1/510 sec. What is the speed of sound in (τ) scale? 1 point

- 1
- 1.5
- 0.66
- 0.5

No, the answer is incorrect.

Score: 0

Accepted Answers:

0.66

4) The function $g(x+t)$, where x and t are spatial coordinate and time respectively, is a

1 point

- Wave traveling at 45 degree to the x-axis
- Wave traveling at -45 degree to the x-axis
- Wave traveling along positive x-axis
- Wave traveling along negative x- axis.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Wave traveling along negative x- axis.

5) The slope of the characteristics curves (x,t) for a backward traveling wave is

1 point

- Positive
- Negative
- 1
- 0

No, the answer is incorrect.

Score: 0

Accepted Answers:

Negative

6) Calculate the speed of sound in air having a density of 1.225 kg/m^3 and pressure of 101kPa. Take the adiabatic constant as 1.44.

1 point

- 340.42
- 344.57
- 342.9
- 335.79

No, the answer is incorrect.

Score: 0

Accepted Answers:

344.57

7) Wave equation $\frac{\partial^2 p}{\partial x^2} = \frac{1}{C^2} \frac{\partial^2 p}{\partial t^2}$ is an example of

1 point

- Hyperbolic partial differential equation
- Parabolic partial differential equation
- Elliptical partial differential equation
- None of the above

No, the answer is incorrect.

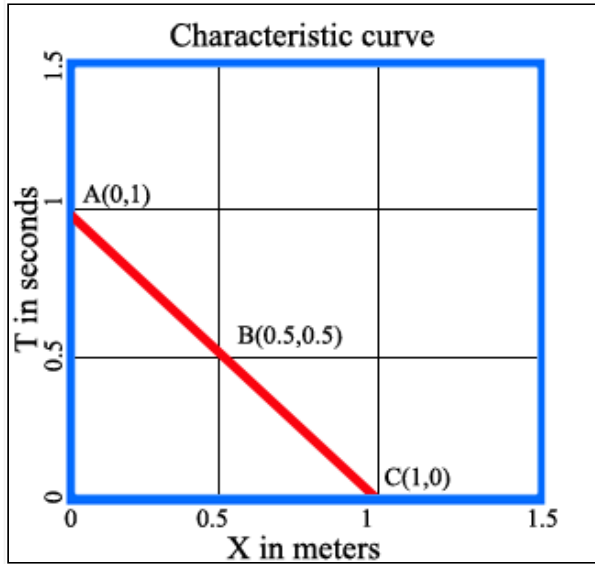
Score: 0

Accepted Answers:

Hyperbolic partial differential equation

8) In an x,t plane the pressure at the point A,B and C are equal. Identify the kind of wave

1 point



- Backward traveling wave
- Forward traveling wave
- Standing wave
- None of the above

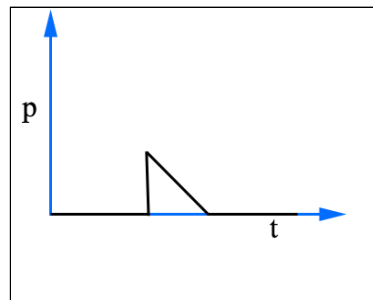
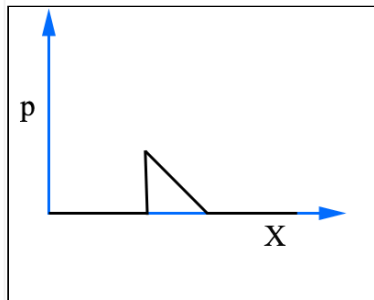
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Score: 0

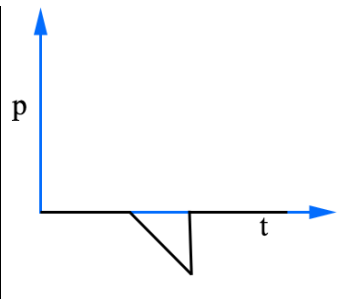
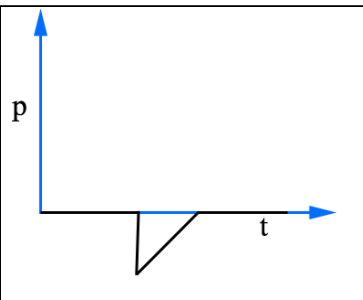
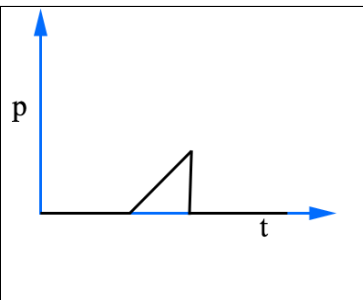
Accepted Answers:

Backward traveling wave

9) The figure represents space profile of a forward propagating wave. Which of the following figure will represent its time history? 1 point



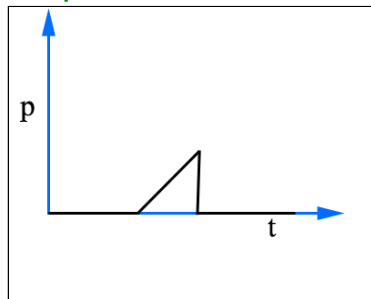
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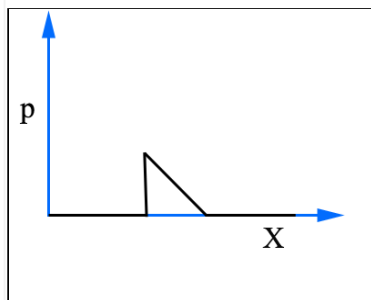
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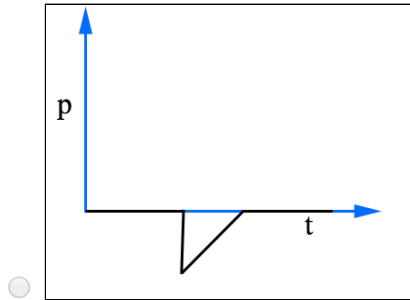
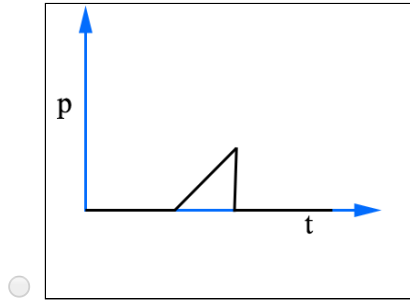
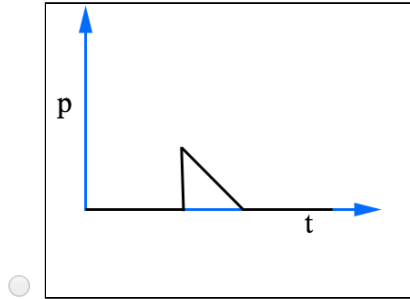
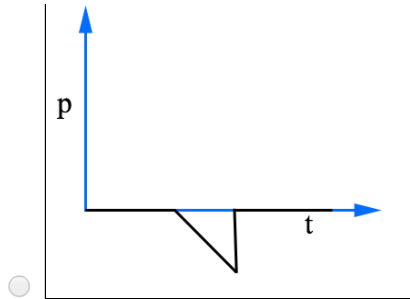
Score: 0

Accepted Answers:



10) The figure represents space profile of a backward propagating wave. Which of the following figure will represent its time history? 1 point

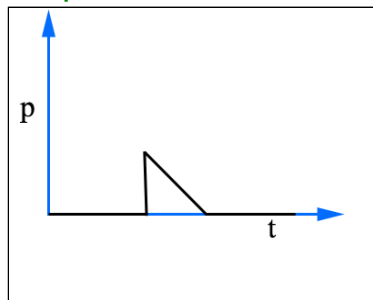




No, the answer is incorrect.

Score: 0

Accepted Answers:



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