Subject: Physics

Topic: Interference of wave

Level: S.4

Learning objective:

1. Content:

Students should be able to

i. explain the formation of different types of interference of waves
ii. explain different patterns of nodal and antinodal lines.

Language

Students should be able to

i. write a short paragraph to explain the formation of different types of interference of waves using the following text pattern:

   When the crest of a wave meets the crest of the other wave, they reinforce each other and form a crest with maximum amplitude. This is called constructive interference.

ii. write a short paragraph to explain different patterns of nodal and antinodal lines using the following text pattern:

   If the wavelength of the sources_____, the number of nodal lines or antinodal lines will_____. Consequently, the distance between successive nodal lines / antinodal lines will _____.

This activity was produced/ adapted by Mr Tsang Chi Kwong from Yu Chun Keung Memorial College

Physics
Interference of Waves
Formation of Interference
Worksheet 1

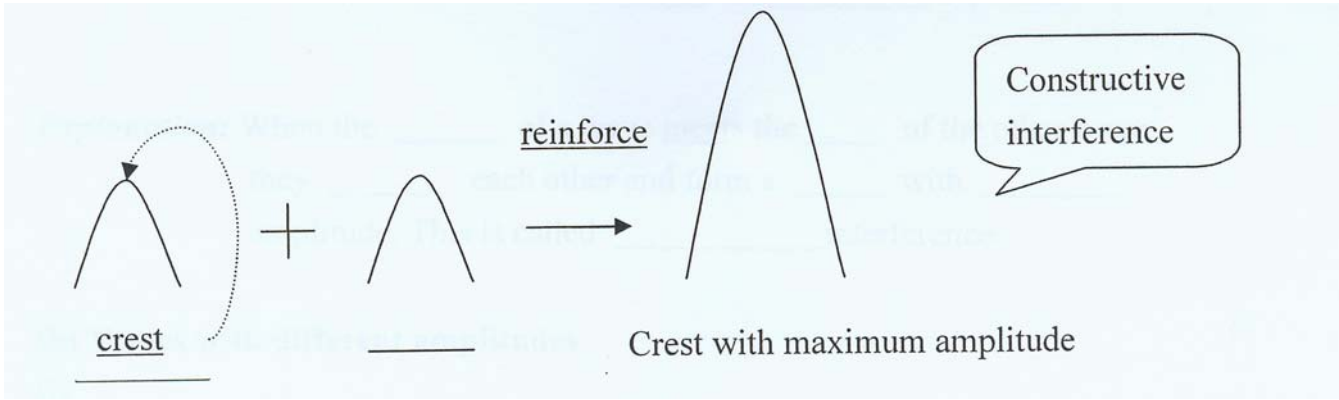
Name:_____ Class:_____ No_____ Date:_____

Writing

Instructions
Each of the diagrams below shows one type of interference of waves. For each diagram:
1. Fill in the blanks with a word or a phrase. Some have been filled in for you as examples.
2. Write two sentences to explain the formation of the type of interference shown in the diagram. The first has been written for you as an example.

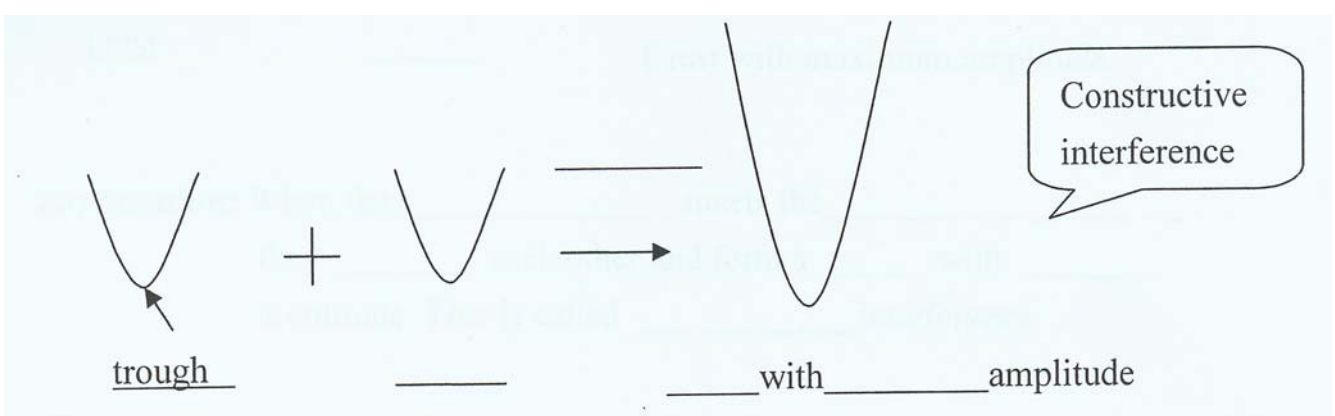
(a) Waves with the same amplitude

(i)



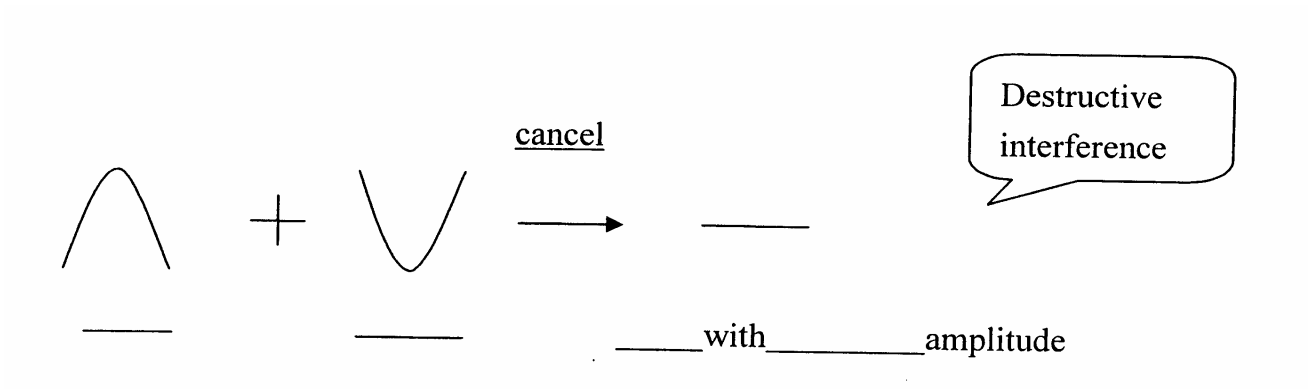
Explanation: When the crest of a wave meets the crest of the other wave, they reinforce each other and form a crest with maximum amplitude. This is called constructive interference.

(ii)



Explanation: When the trough of a wave meets the_____ of the other wave, they _____ each other and form a _____ with _____ amplitude. This is called _____ interference.

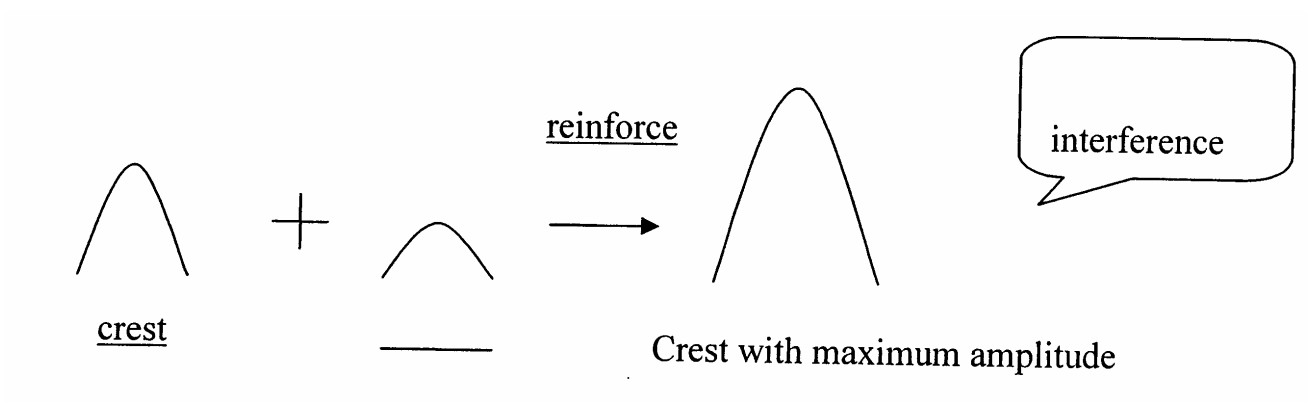
(iii)



Explanation: When the _____ of a wave meets the_____ of the other wave, they _____ each other and form a _____ with _____ amplitude. This is called _____ interference.

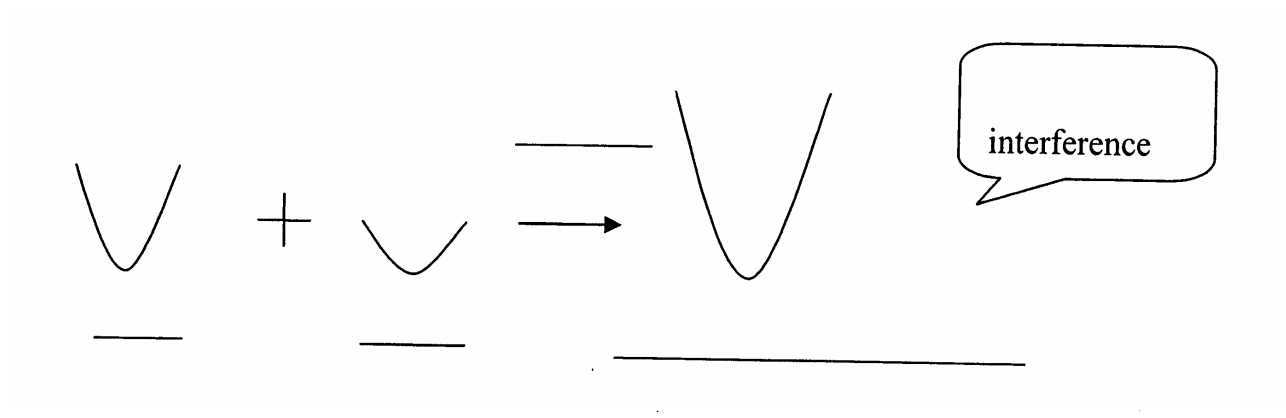
(b) Waves with different amplitudes

(i)



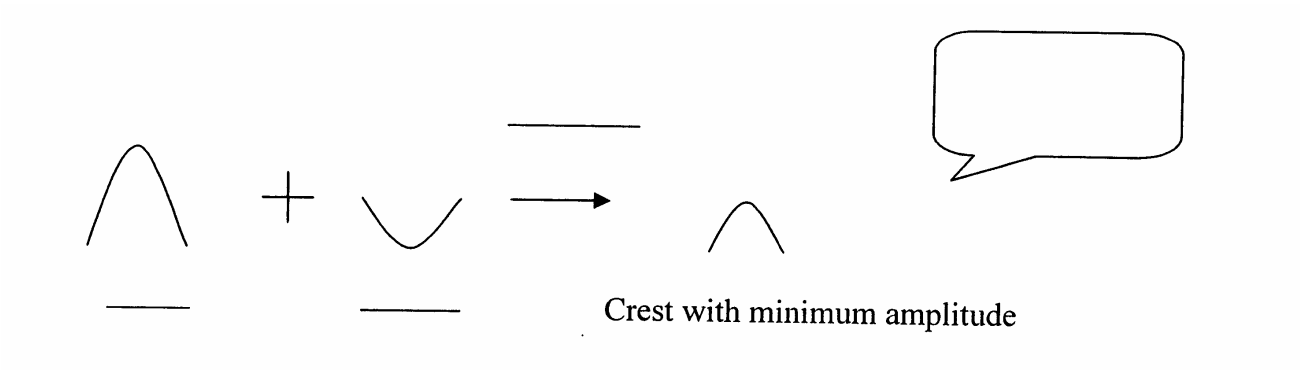
Explanation: When the_____ meets the_____, they _____ each other and form a _____ with _____ amplitude. This is called _____ interference.

(ii)



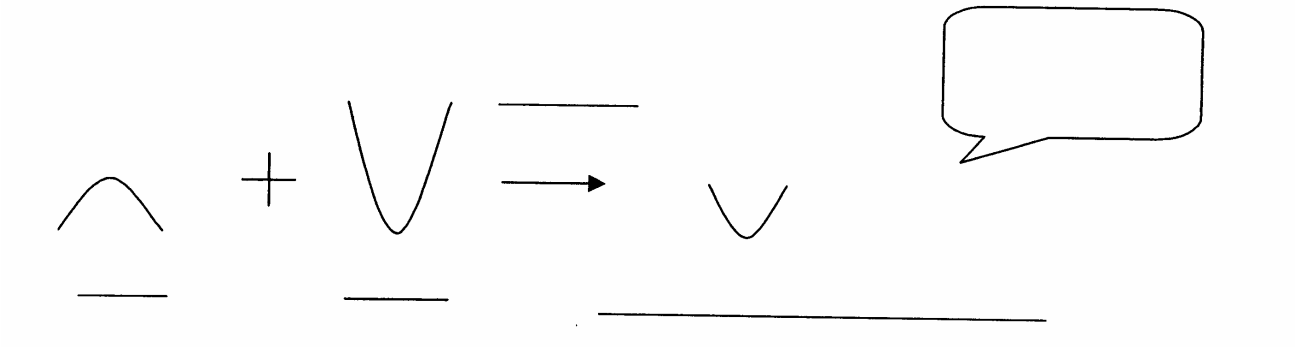
Explanation: When _____ meets _____, they _____ each other and form a _____ amplitude. This is called _____.

(iii)



Explanation: When the _____, they _____and _____. This is called _____ interference.

(iv)



Explanation: When the _____

_____

_____