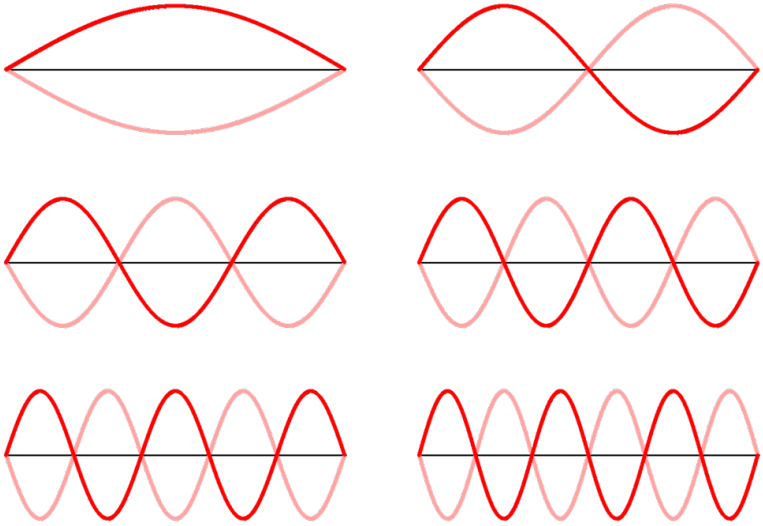
# Name That Harmonic - Strings

## Activity 1: ID the Pattern

### Question Group 1

### Question 1

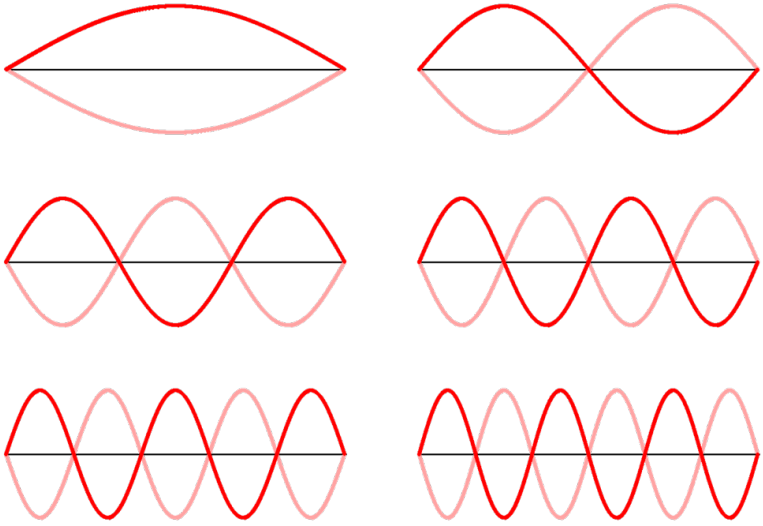
Identify the standing wave pattern for a string that is vibrating with a first harmonic wave pattern.



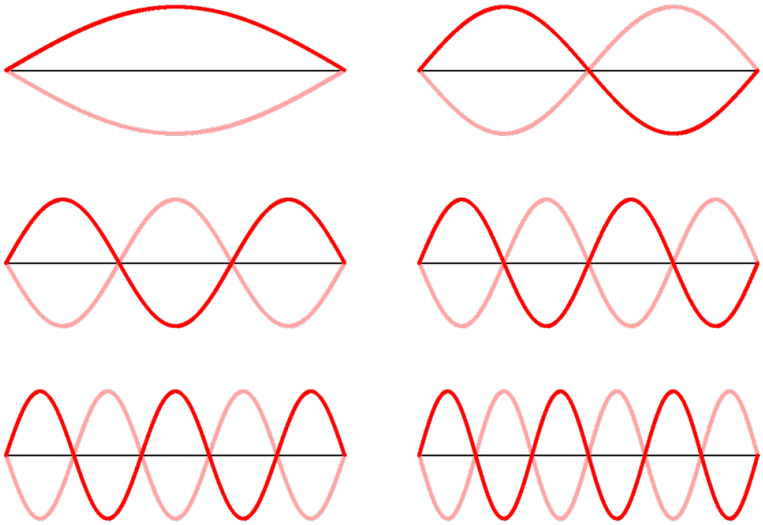
### Question Group 2

### Question 2

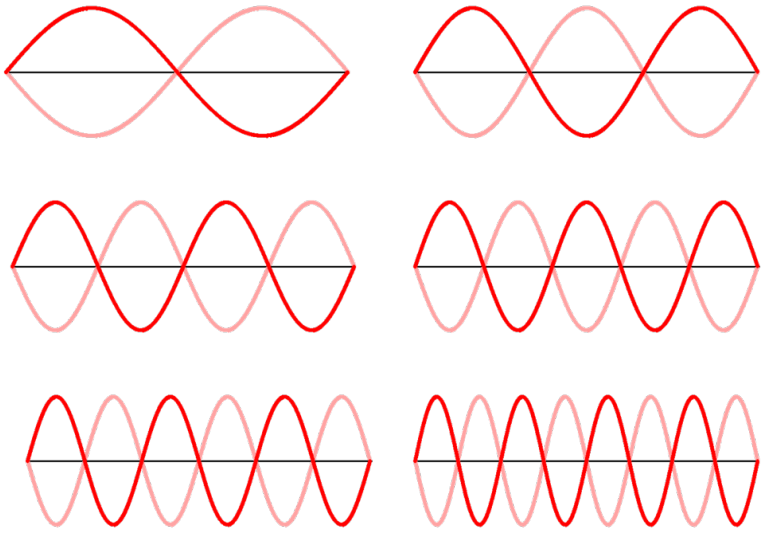
Identify the standing wave pattern for a string that is vibrating with a second harmonic wave pattern.



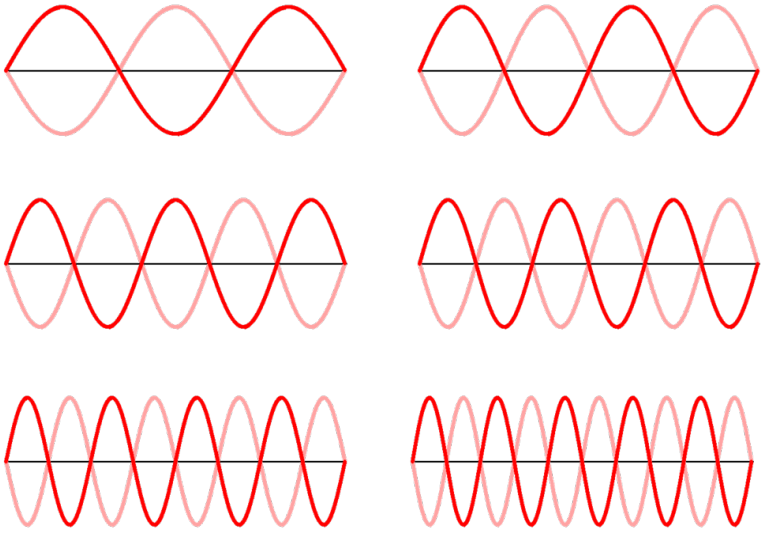
**Question Group 3**
**Question 3**
Identify the standing wave pattern for a string that is vibrating with a third harmonic wave pattern.



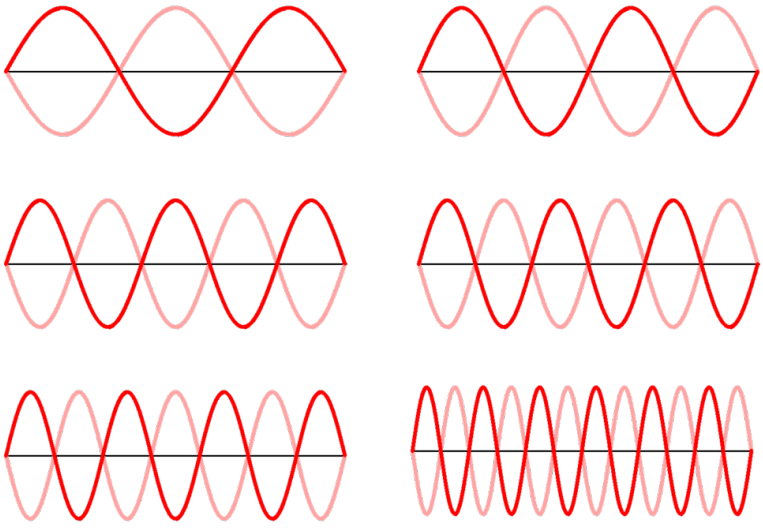
**Question Group 4**
**Question 4**
Identify the standing wave pattern for a string that is vibrating with a fourth harmonic wave pattern.



**Question Group 5**
**Question 5**
Identify the standing wave pattern for a string that is vibrating with a fifth harmonic wave pattern.



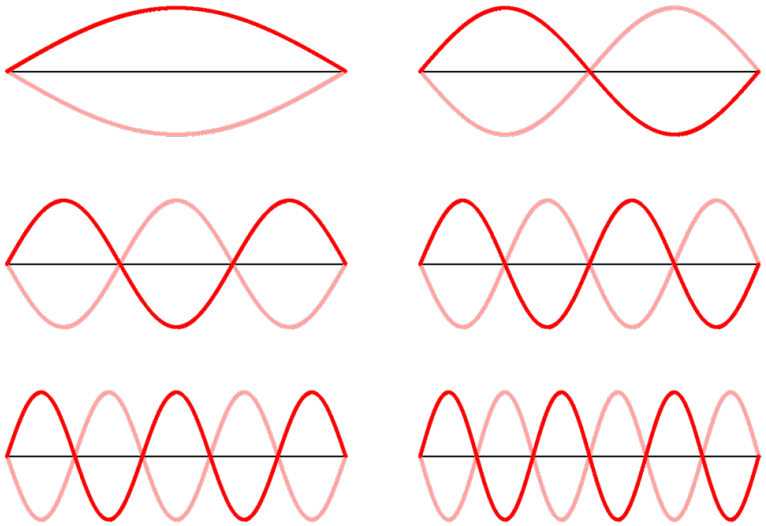
**Question Group 6**
**Question 6**
Identify the standing wave pattern for a string that is vibrating with a sixth harmonic wave pattern.



**Question Group 7**

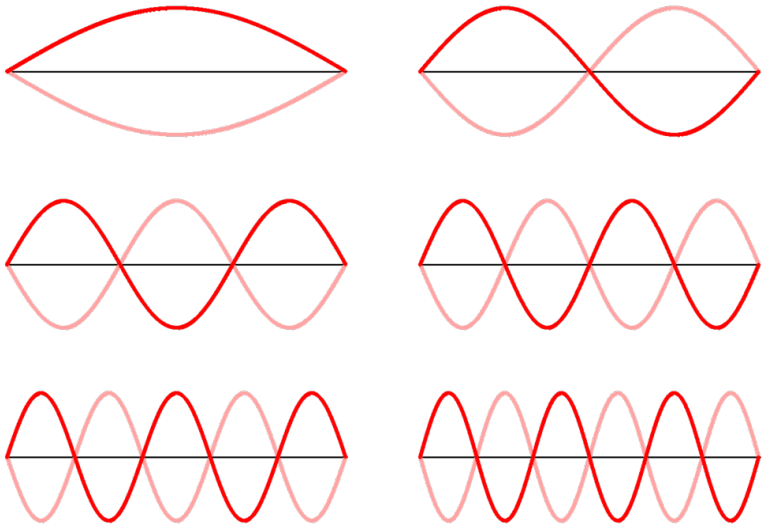
**Question 7**

The fundamental or first harmonic frequency of a vibrating string is 80 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 160 Hz.



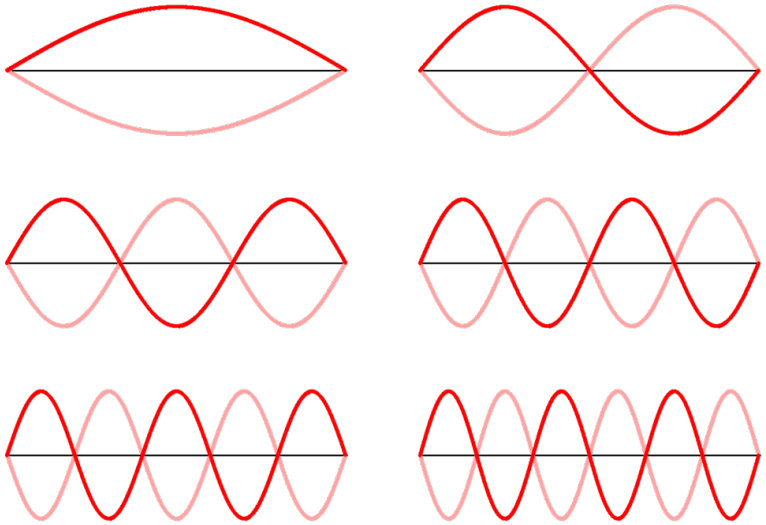
**Question 8**

The fundamental or first harmonic frequency of a vibrating string is 60 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 120 Hz.



**Question 9**

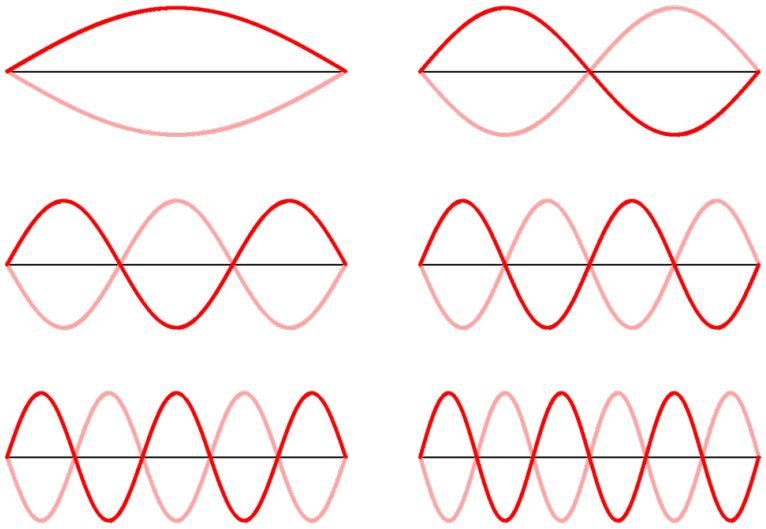
The fundamental or first harmonic frequency of a vibrating string is 120 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 240 Hz.



**Question Group 8**

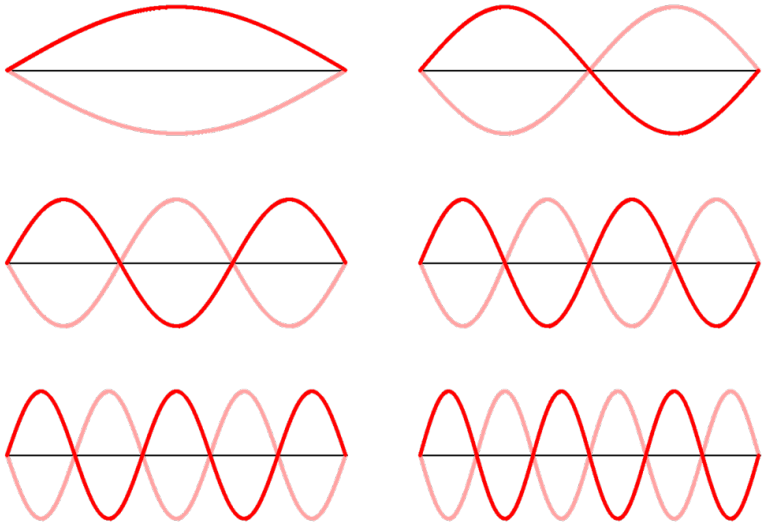
**Question 10**

The fundamental or first harmonic frequency of a vibrating string is 80 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 240 Hz.



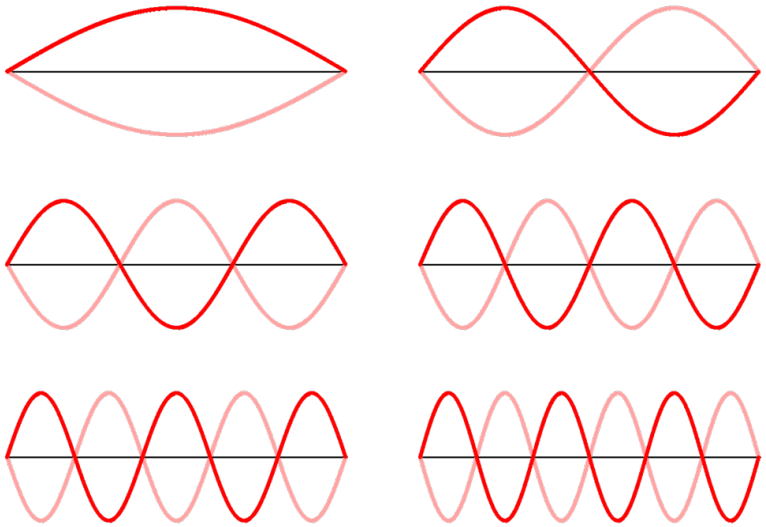
**Question 11**

The fundamental or first harmonic frequency of a vibrating string is 60 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 180 Hz.



**Question 12**

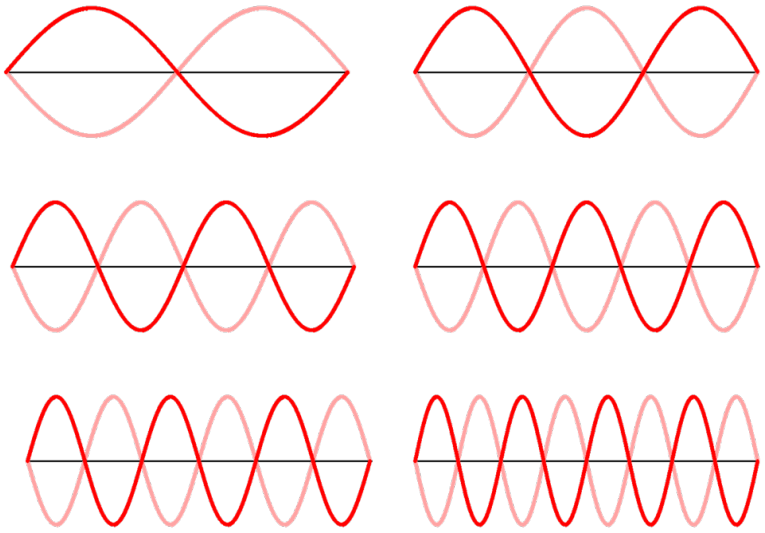
The fundamental or first harmonic frequency of a vibrating string is 120 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 360 Hz.



**Question Group 9**

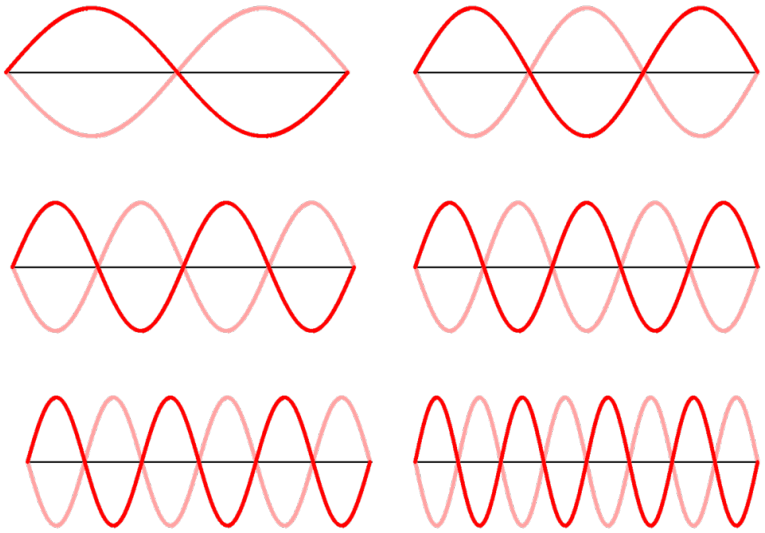
**Question 13**

The fundamental or first harmonic frequency of a vibrating string is 80 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 320 Hz.



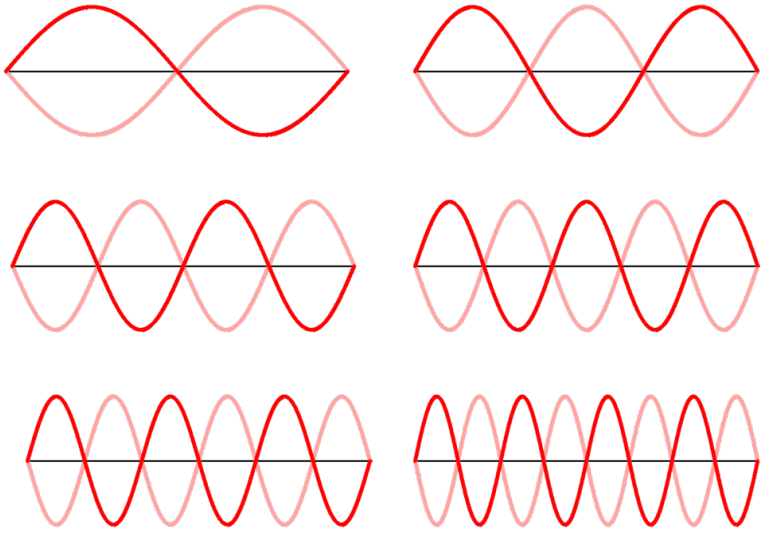
**Question 14**

The fundamental or first harmonic frequency of a vibrating string is 60 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 240 Hz.



**Question 15**

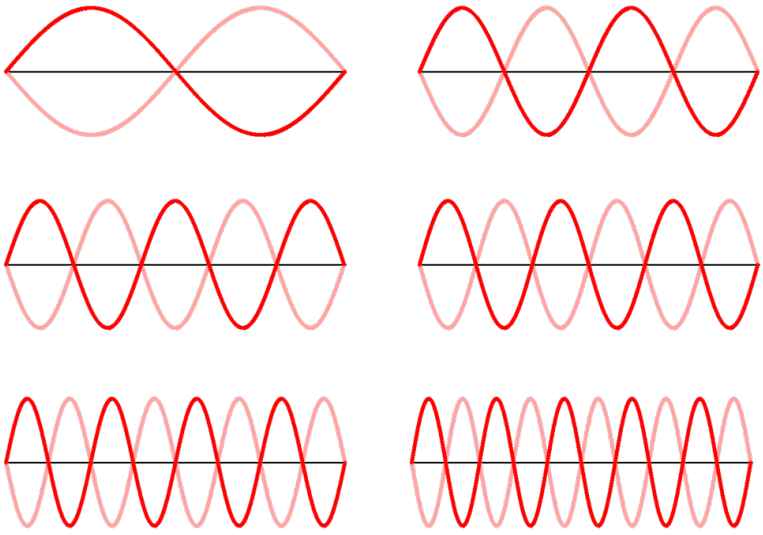
The fundamental or first harmonic frequency of a vibrating string is 120 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 480 Hz.



**Question Group 10**

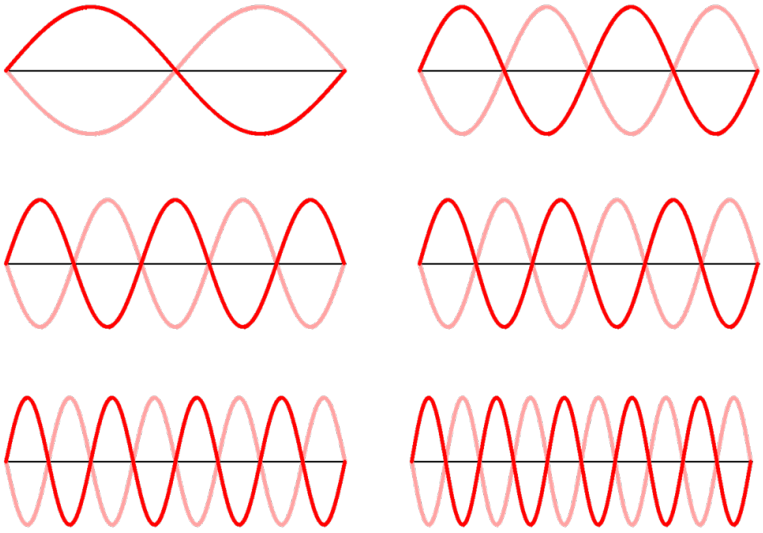
**Question 16**

The fundamental or first harmonic frequency of a vibrating string is 80 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 400 Hz.



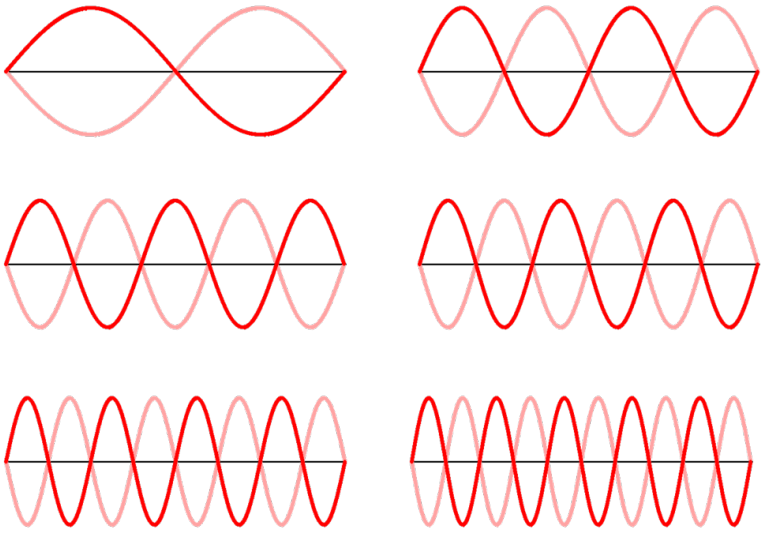
**Question 17**

The fundamental or first harmonic frequency of a vibrating string is 60 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 300 Hz.



**Question 18**

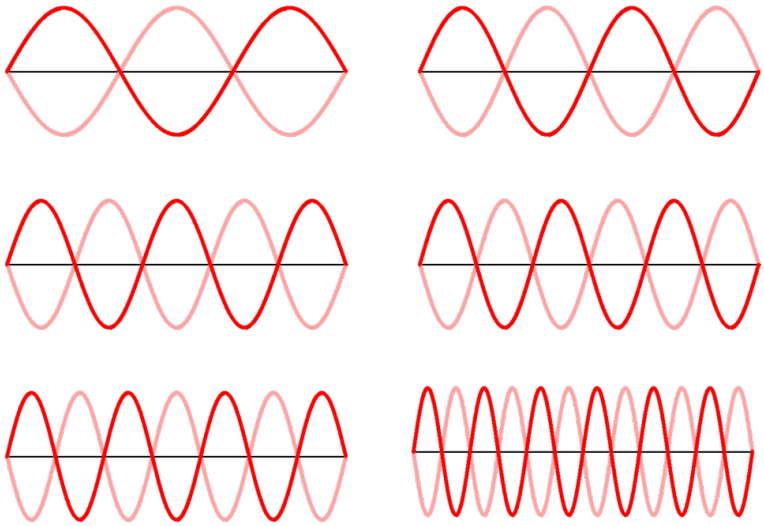
The fundamental or first harmonic frequency of a vibrating string is 120 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 600 Hz.



**Question Group 11**

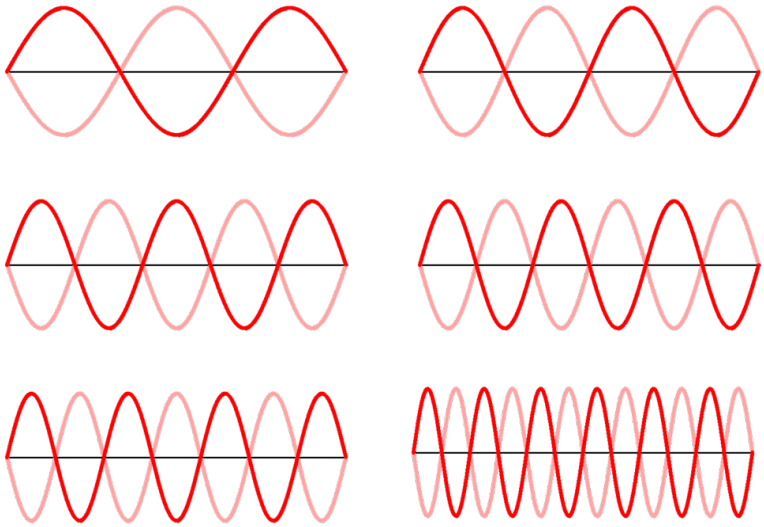
**Question 19**

The fundamental or first harmonic frequency of a vibrating string is 80 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 480 Hz.



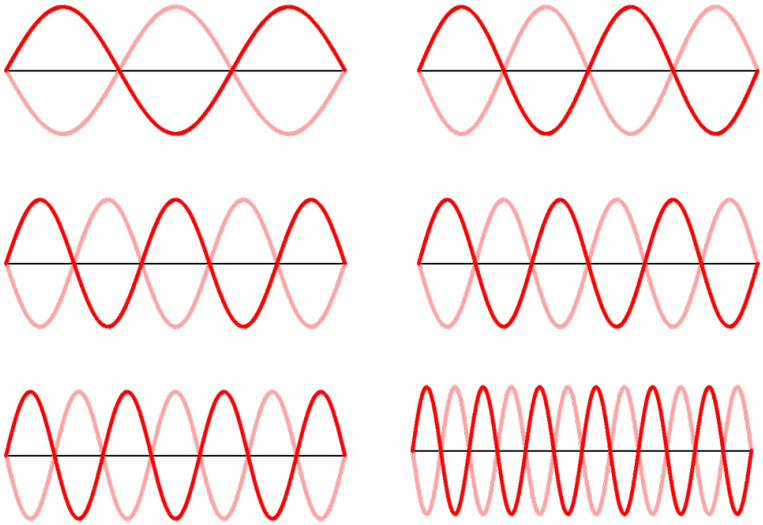
**Question 20**

The fundamental or first harmonic frequency of a vibrating string is 60 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 360 Hz.



**Question 21**

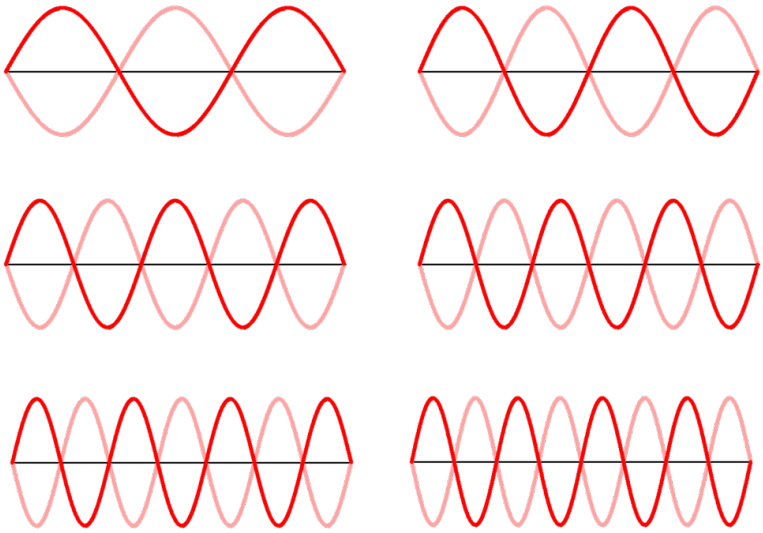
The fundamental or first harmonic frequency of a vibrating string is 120 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 720 Hz.



**Question Group 12**

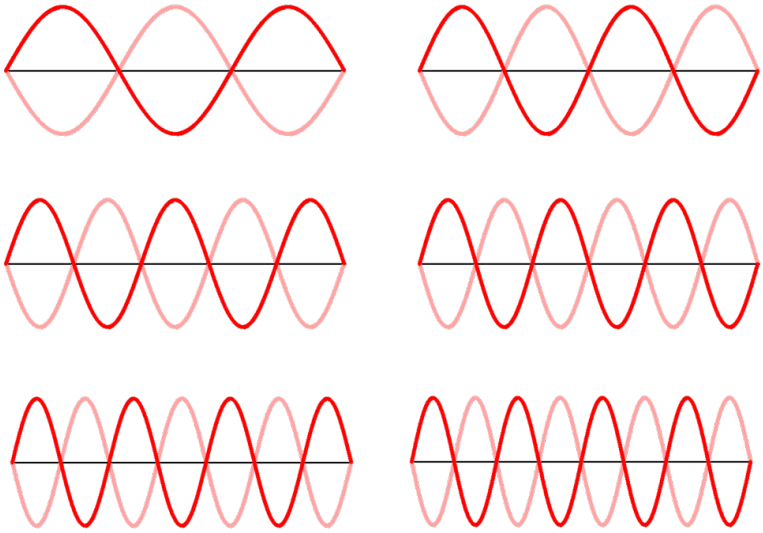
**Question 22**

The fundamental or first harmonic frequency of a vibrating string is 80 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 560 Hz.



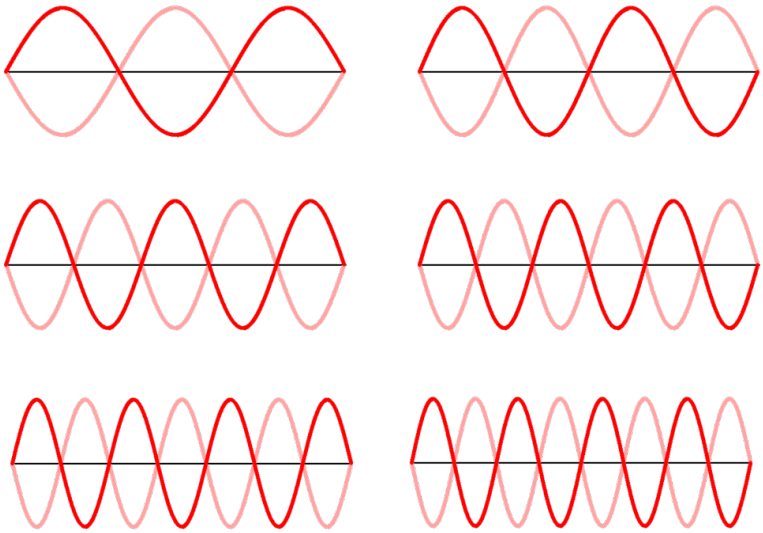
**Question 23**

The fundamental or first harmonic frequency of a vibrating string is 60 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 420 Hz.

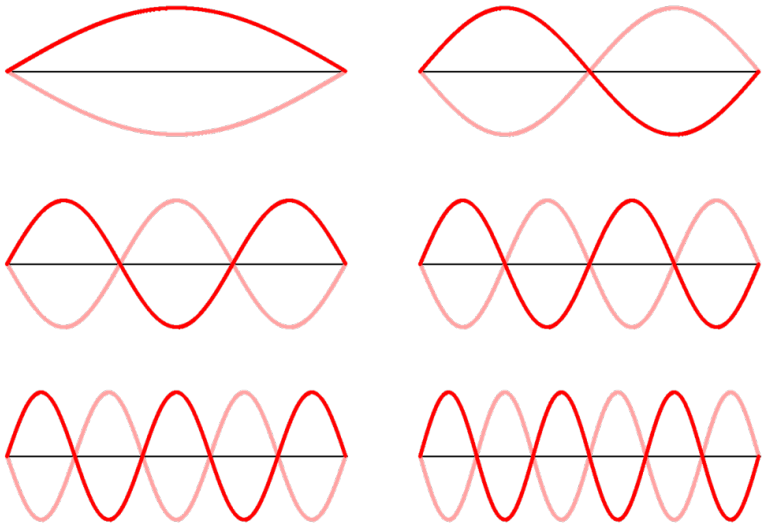


**Question 24**

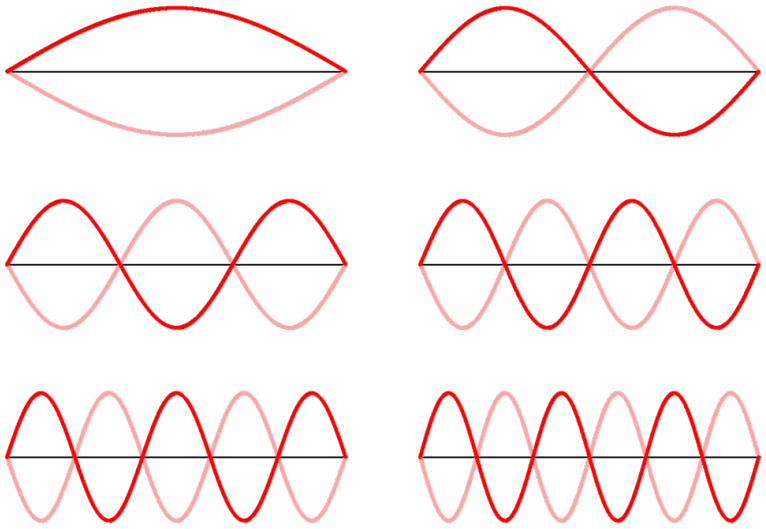
The fundamental or first harmonic frequency of a vibrating string is 120 Hz. The same string is capable of vibrating with several other standing wave patterns. Identify the standing wave pattern for the harmonic that has a frequency of 840 Hz.



**Activity 3**
**Question Group 13**
**Question 25**
A string has a length of 48 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 96 cm.

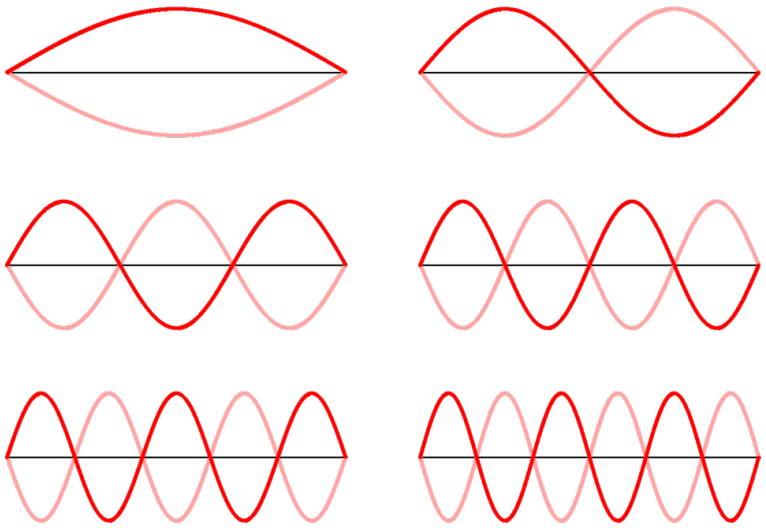


**Question 26**
A string has a length of 64 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 128 cm.



**Question 27**

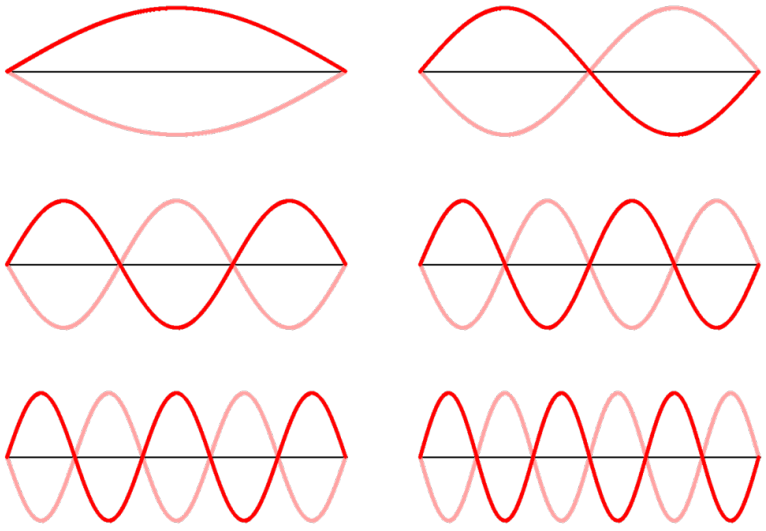
A string has a length of 40 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 80 cm.



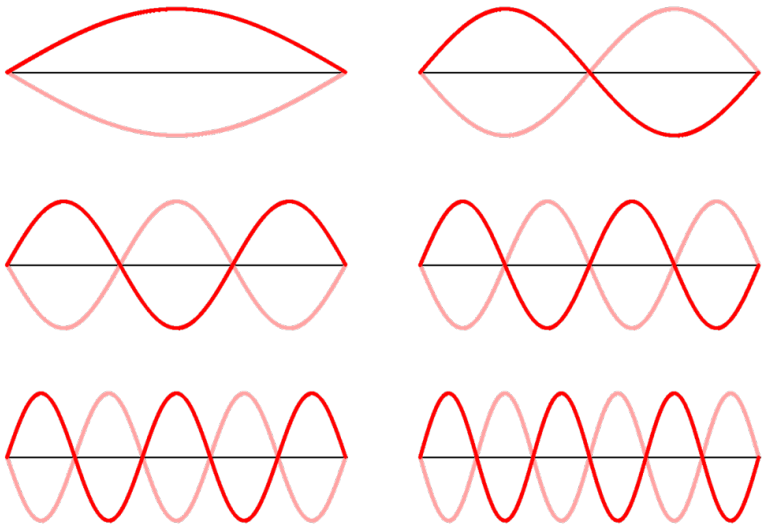
**Question Group 14**

**Question 28**

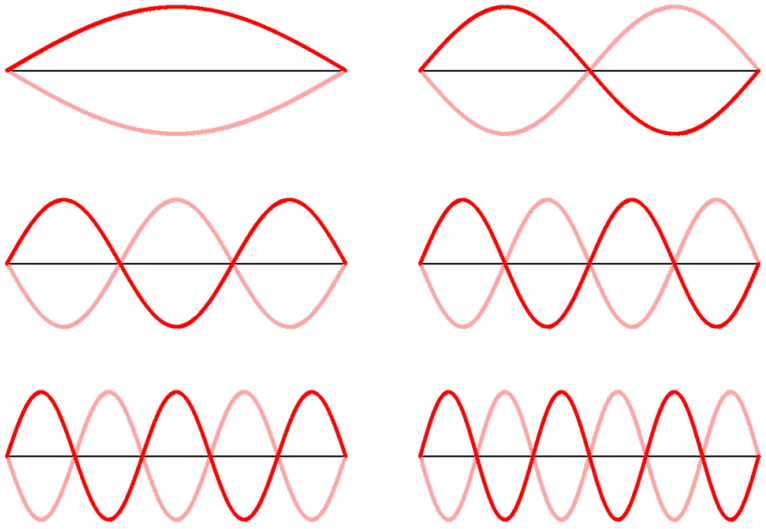
A string has a length of 48 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 32 cm.



**Question 29**
A string has a length of 90 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 60 cm.



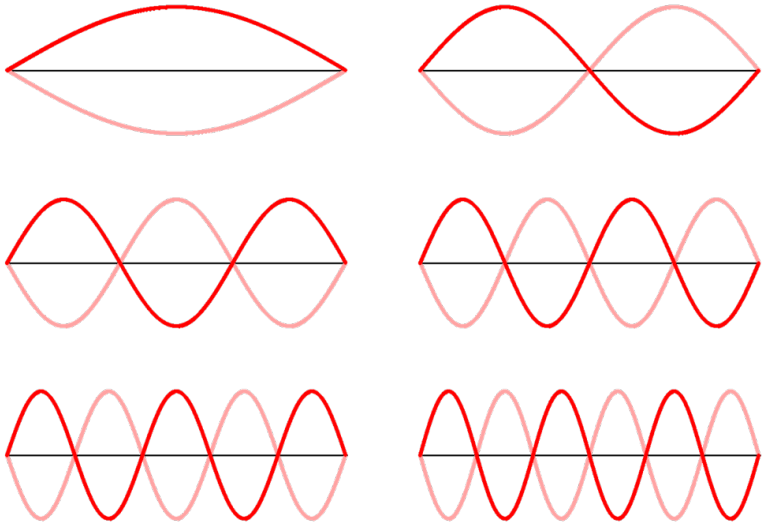
**Question 30**
A string has a length of 60 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 40 cm.



**Question Group 15**

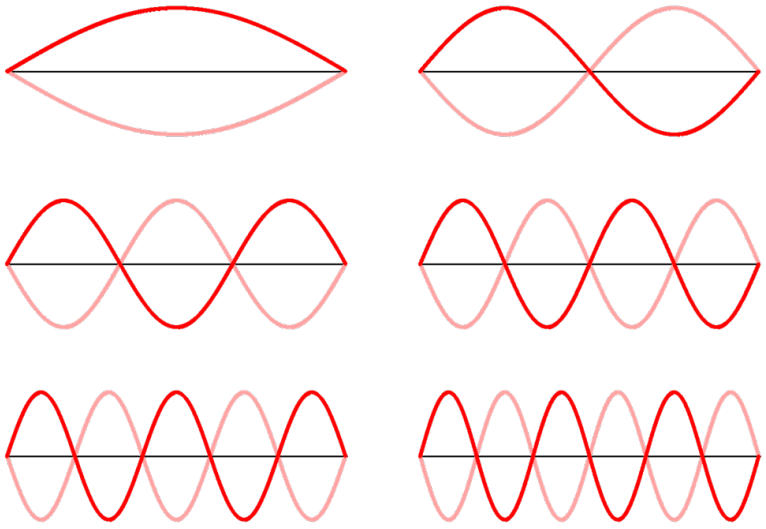
**Question 31**

A string has a length of 48 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 24 cm.



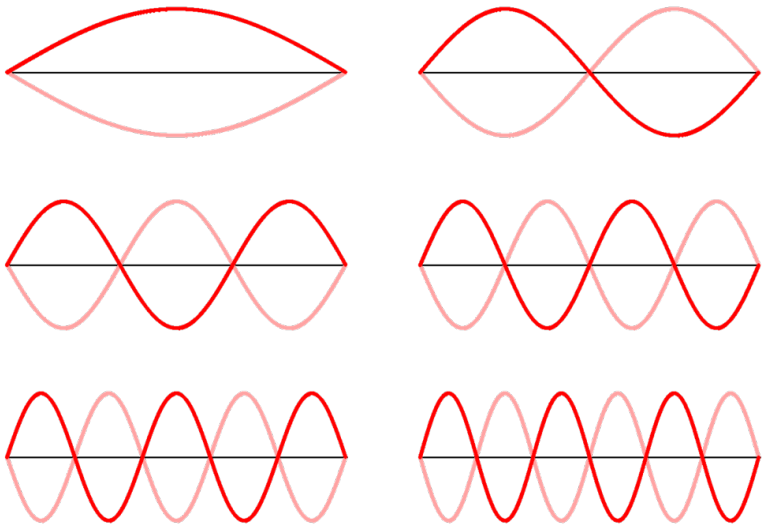
**Question 32**

A string has a length of 64 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 32 cm.



**Question 33**

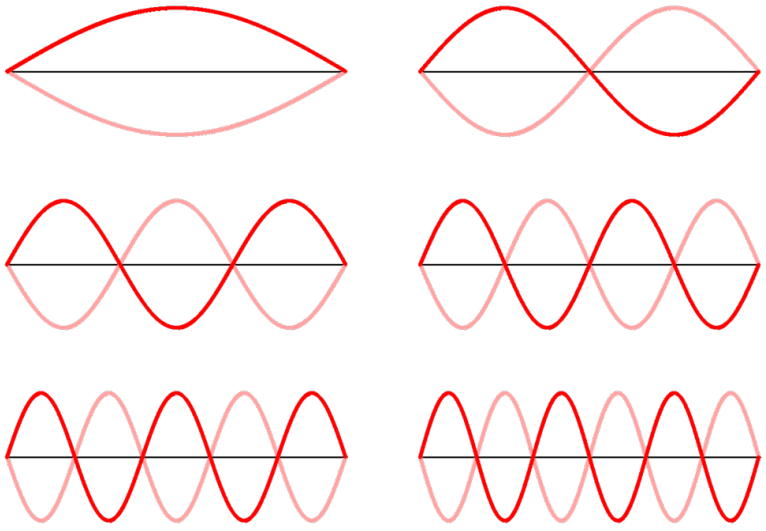
A string has a length of 60 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 30 cm.



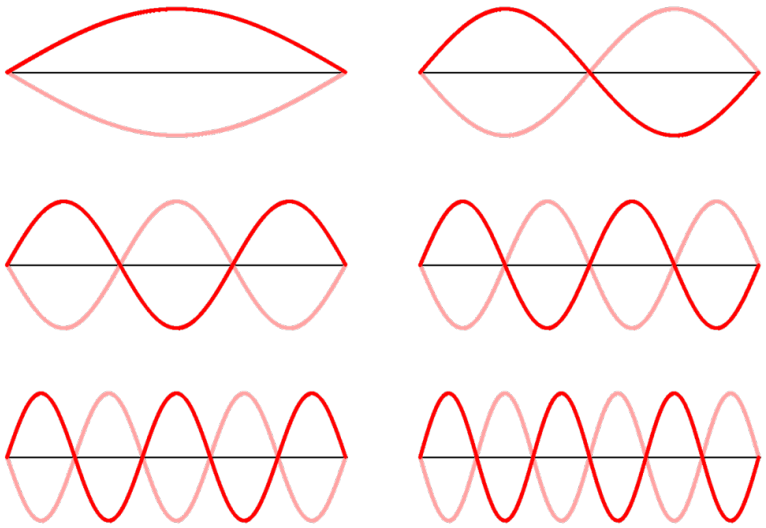
**Question Group 16**

**Question 34**

A string has a length of 50 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 20 cm.



**Question 35**
A string has a length of 80 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 32 cm.



**Question 36**
A string has a length of 60 cm. Identify the standing wave pattern for the harmonic that has a wavelength of 24 cm.