25 What is **not** a possible value for the wavelength of the named electromagnetic waves when it is travelling in a vacuum?

	electromagnetic wave	wavelength / m
A	γ-rays	3×10^{-13}
B	X-rays	3×10^{-10}
C	infrared	3×10^{-6}
D	microwaves	3×10^{-5}

26 Two waves, P and Q, meet at a point X and superpose.

Initially, the two waves meet at X in phase (zero phase difference) so that the resultant wave has an amplitude of 14.0 cm at that point.

The phase difference between the two waves is then changed so that they meet at X with a phase difference of 180°. The resultant wave now has an amplitude of 4.0 cm at X.

What is the amplitude of one of the waves at point X?

A 2.0 cm **B** 5.0 cm **C** 10 cm **D** 18 cm

27 A water wave is diffracted as it passes through a gap between two barriers in a ripple tank. The wave is observed to 'spread out' as it moves through the gap.

Which two factors both affect the amount of diffraction observed?

A the amplitude and frequency of the incident wave

B the amplitude of the incident wave and the width of the gap

C the wavelength and amplitude of the incident wave

D the wavelength of the incident wave and the width of the gap