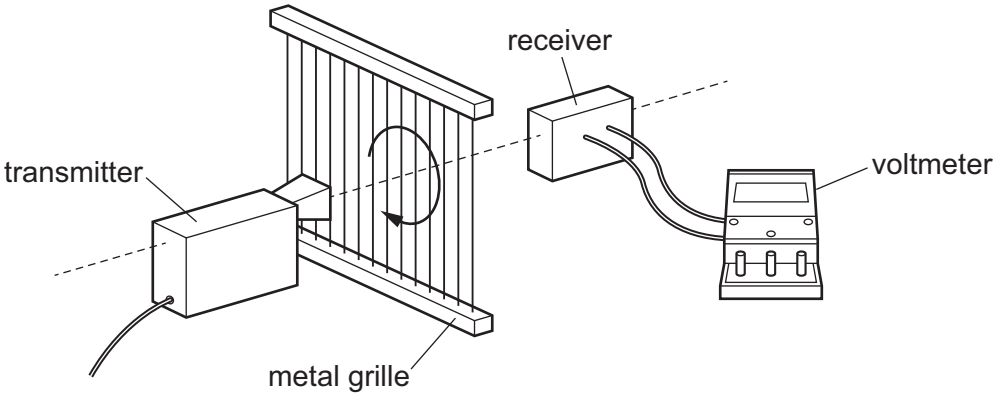
26 A student investigates the polarisation of microwaves. The microwaves from the transmitter are vertically polarised. A metal grille acts as a polarising filter when placed between the microwave transmitter and the receiver. The reading on the voltmeter is proportional to the intensity of microwaves transmitted through the grille.

When the transmission axis of the grille is vertical, the voltmeter reads 3.50 V.



The grille is then rotated through an angle θ. The voltmeter now reads 2.20 V.

What is θ?

A 37.5° **B** 39.0° **C** 51.0° **D** 52.5°

27 Two waves superpose. A resultant wave pattern is formed.

Which statement about the two waves **must** be correct?

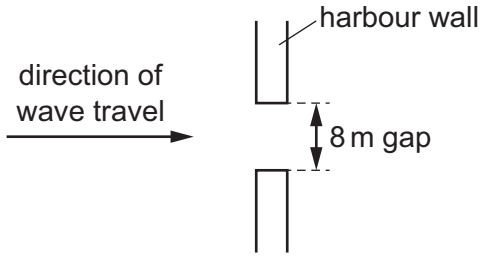
A They have the same amplitude.

B They are of the same type.

C They are transverse waves.

D They travel in opposite directions.

28 A water wave passes through a gap in a harbour wall and diffracts. The gap has a width of 8 m.



The wave travels directly towards the gap.

For which wavelength is the diffraction of the wave greatest?

A 1 m **B** 2 m **C** 4 m **D** 8 m