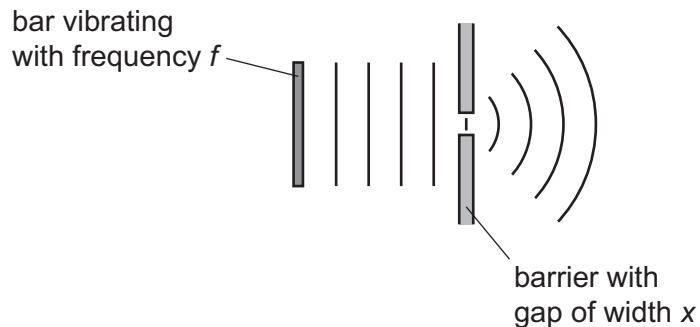


**29** A bar vibrates with frequency  $f$  to produce water waves in a ripple tank.



The waves pass through a gap of width  $x$  in a barrier so that diffraction occurs.

Which combination of vibration frequency and gap width will produce the smallest angle of diffraction?

	vibration frequency	gap width
<b>A</b>	$\frac{f}{2}$	$\frac{x}{2}$
<b>B</b>	$\frac{f}{2}$	$2x$
<b>C</b>	$2f$	$\frac{x}{2}$
<b>D</b>	$2f$	$2x$

**30** A diffraction pattern is produced when monochromatic light of frequency  $f$  is incident on a double-slit aperture of width  $x$ .