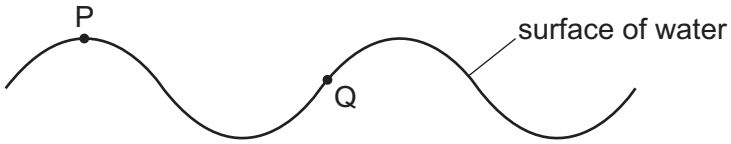
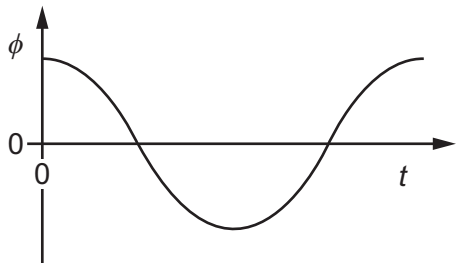
20 In a progressive water wave, two particles, P and Q, on the surface of the water, are a fixed horizontal distance apart. P and Q oscillate vertically.

At time $t = 0$, the wave is as shown.

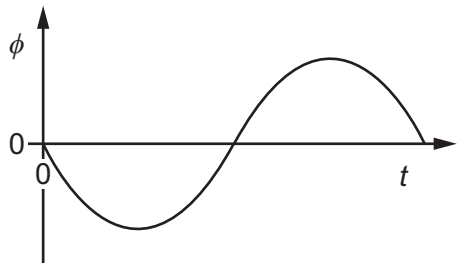


Which graph best represents the variation with time t of the phase difference ϕ between the oscillation of the water particle P and the oscillation of the water particle Q?

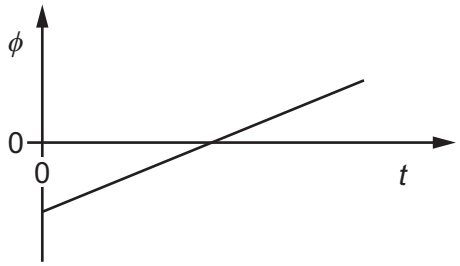
A



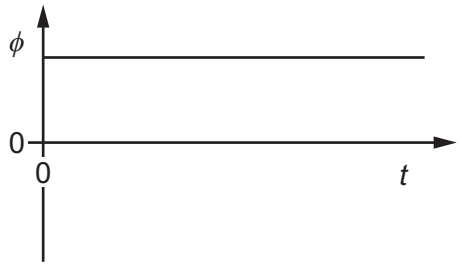
B



C



D



21 Which statement about longitudinal waves and transverse waves is **not** correct?

A Both waves can be polarised.

B Both waves can form stationary waves.

C Both waves can transfer energy as progressive waves.

D Both waves obey the equation $v = f\lambda$.