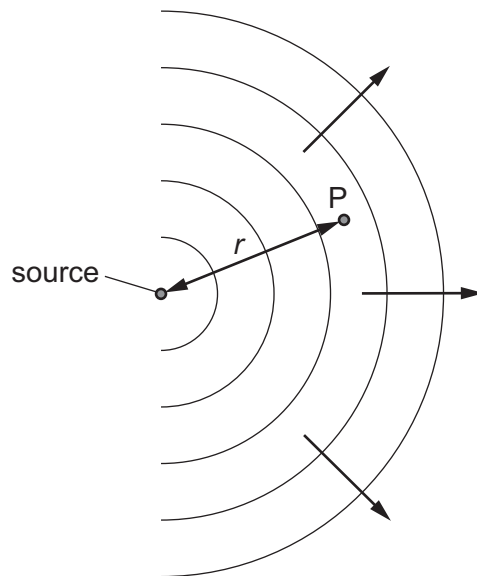


**27** A small source emits spherical waves.



The wave intensity  $I$  at any point P, a distance  $r$  from the source, is inversely proportional to  $r^2$ .

What is the relationship between the wave amplitude  $a$  and the distance  $r$ ?

**A**  $a^2 \propto \frac{1}{r}$

**B**  $a \propto \frac{1}{r}$

**C**  $a \propto \frac{1}{r^2}$

**D**  $a \propto \frac{1}{r^4}$

**Space for working**