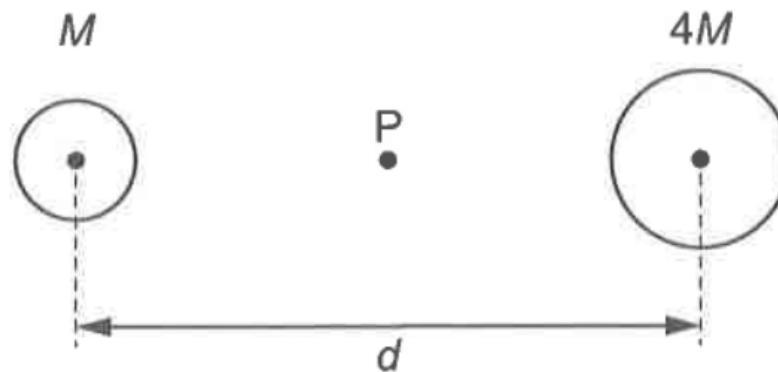


- 10 Two isolated stars, of mass  $M$  and  $4M$ , are separated in space by a distance  $d$  between the centres of the stars.



Point P is a point midway between the centres of the two stars.

What is the gravitational potential at P?

A  $\frac{-4GM^2}{d}$

B  $\frac{-6GM}{d}$

C  $\frac{-8GM^2}{d}$

D  $\frac{-10GM}{d}$

- 11 A container filled with an ideal gas is at a temperature of  $80^\circ\text{C}$ . The root mean square (r.m.s.)