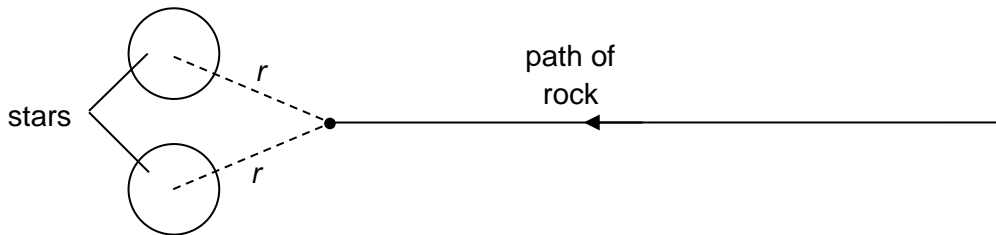


- 9 Two stars, each of mass  $M$ , are isolated in space. A rock of mass  $m$ , initially at very slow speed a very long distance away, approaches the two stars as shown below.



What is the speed of the rock when it reaches a distance  $r$  from the centres of the two stars as shown?

- A**  $\sqrt{\frac{2GMm}{r}}$       **B**  $\sqrt{\frac{4GMm}{r}}$       **C**  $\sqrt{\frac{2GM}{r}}$       **D**  $\sqrt{\frac{4GM}{r}}$