4. (6 pts) The accompanying figure shows a rocket coasting in space in the direction of the dashed line. Between A and B, no outside forces act on the rocket. When it reaches point B, the rocket fires its engines as shown, and accelerates with constant acceleration until it reaches a point C in space.

![Diagram of rocket](image)

direction of acceleration when rocket is firing.

Which of the paths below will the rocket follow from B to C?

(a) ![Path (a) image]
(b) ![Path (b) image]
(c) ![Path (c) image]
(d) ![Path (d) image]
(e) ![Path (e) image]

Circle one:

a.  b.  c.  d.  e.

f. None of the above.

Path is a parabola