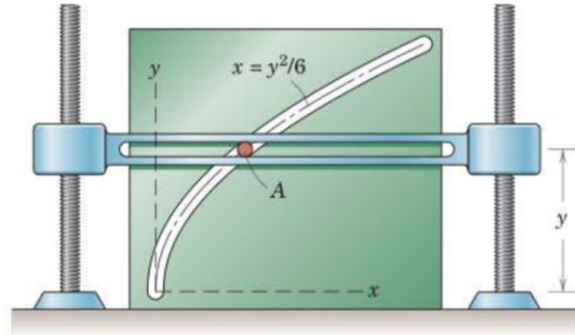


1) For a certain interval of motion, the pin  $A$  is forced to move in the fixed parabolic slot by the horizontal slotted arm which is elevated in the  $y$ -direction at a constant rate of  $3 \text{ in/s}$ . All measurements are in inches and seconds. Calculate the velocity  $v$  and acceleration  $a$  of pin  $A$  when  $x = 6 \text{ in}$ .



15 marks