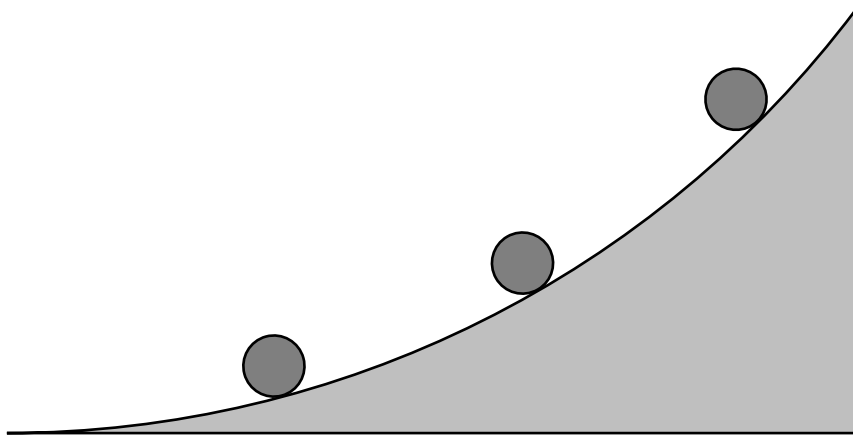


Denote the speed of the ball by v and its tangential acceleration by \vec{a}_T .



As the ball rolls down this hill,

- A) v increases and a_T decreases.
- B) v decreases and a_T increases.
- C) Both increase.
- D) Both remain constant.

By inspection, the tangential component of the acceleration decreases with the height. On the other hand, since a_T points downhill, the speed keeps on increasing.

Answer **A**.