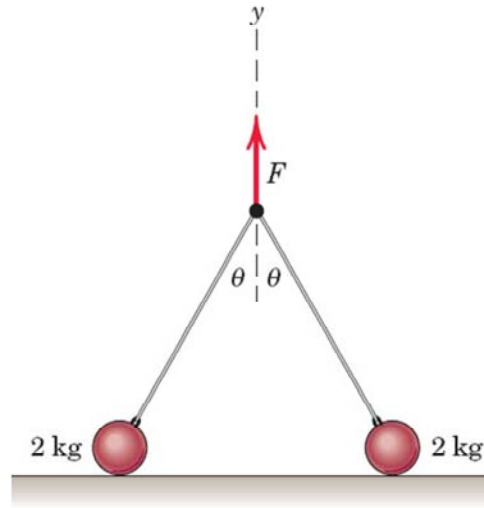


### Newton's 2<sup>nd</sup> Law: Exercise

Two **2-kg** balls are initially at rest when a vertical **force**  $F = 60 \text{ N}$  is applied as shown.

Compute the vertical component  $a_y$  of the **acceleration** by considering the system as a whole.



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See Notes Page view for solution.

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$mg = 2(9.81) = 19.62 \text{ N}$

$\Sigma F_y = m\bar{a}_y; 60 - 2(19.62) = 4\bar{a}_y$   
 $a_y = \bar{a}_y = 5.19 \text{ m/s}^2$   
(independent of  $\theta$ )