

**Answer on question #60160, Physics / Mechanics — Relativity**

**Question** A student measures the distance traversed in free fall of a body , initially at rest in a given time. He uses this data to estimate  $g$  , the acceleration due to gravity. If the maximum percentage errors in measurement of the distance and the time are  $e_1$  and  $e_2$  respectively , the percentage error in the estimation of  $g$  is

- (1)  $e_2 - e_1$
- (2)  $e_1 + 2e_2$
- (3)  $e_1 + e_2$
- (4)  $e_1 - 2e_2$

**Solution** As  $g$  is measured in  $\text{m/s}^2$ , correct answer is:

- (2)  $e_1 + 2e_2$ .