

Question 16 (continued)

- (a) Outline TWO changes that could be made to the experimental procedure that would improve its accuracy. 2

..... 1. use different masses

..... 2. At swing at different angles

.....

.....

- (b) Compare Kim's and Ali's methods of calculating g and identify the better approach. 3

..... Kim's is more accurate, because

..... the acceleration due to gravity

..... does not ~~go~~ increase in a linear

..... trend (relation) and Ali is making it

..... linear. Kim is calculating it with real

..... and accurate numbers and not in any linear relationships

..... so his is better.

- (c) Calculate the value of g from the line of best fit on Ali's graph. 3

..... $0.5 = 2\pi \sqrt{\frac{0.12}{g}}$ ~~#~~ $0.5 = 6.28 \sqrt{\frac{0.12}{g}}$

..... $\sqrt{\frac{0.12}{g}} = \frac{0.5}{6.28}$

..... $\frac{0.12}{g} = \frac{0.25}{37}$

..... $g = 0.12 \times 148$

..... $g \doteq 18$ which is not

..... accurate.

End of Question 16