

Arahan: Jawab Soalan 10 dan Soalan 11 atau Soalan 12.
Instruction: Answer Question 10 and Question 11 or Question 12.

- 10 Kaji pernyataan berikut.
Study the following statement.

Semasa membeli-belah di pasar raya, Fatimah mendapati bahawa troli pasar raya yang penuh dengan muatan lebih sukar untuk ditolak atau dihentikan berbanding dengan troli yang kosong.

When Fatimah went for a shopping at a shopping complex, she found out that a shopping trolley filled with loads is difficult to push or stopped compared to an empty trolley.

- (a) Cadangkan **satu** hipotesis untuk menyiasat pernyataan di atas.
Suggest **one** hypothesis to investigate the above statement. [1 markah/ mark]
- (b) Anda diberikan dua tin, tali, pasir dan radas lain.
Huraikan satu eksperimen untuk mengkaji hipotesis di (a) berdasarkan kriteria berikut:
You are given two cans, string, sand and other apparatus.
Describe an experiment to test your hypothesis in (a) based on the following criteria:
- (i) Tujuan eksperimen/ Aim of the experiment [1 markah/ mark]
 - (ii) Mengenal pasti pemboleh ubah/ Identification of variables [2 markah/ marks]
 - (iii) Senarai radas dan bahan/ List of apparatus and materials [1 markah/ mark]
 - (iv) Prosedur atau kaedah/ Procedure or method [4 markah/ marks]
 - (v) Penjadualan data/ Tabulation of data [1 markah/ mark]

Jawapan/ Answers:

- (a) _____

Shopping trolley filled with loads has a bigger inertia than empty trolley/Shopping trolley filled with loads is difficult to push or stopped compared to an empty trolley/The bigger the mass of an object, the bigger its inertia.
- (b) (i) _____
To investigate the relationship between the mass of object and its inertia/ time taken to stop swinging.
- (ii) / Variables:

/ Manipulated - mass of tin/object

/ Responding - inertia/time taken to stop swinging

/ Constant - size of tin / length of rope/ angle of swinging
- (iii) in, sand, rope, stopwatch
- (iv) 1. / Fill tin A with sand.
2. / Let tin B empty.
3. / Hang both tins at the same height.
4. / Swing both tins with the same force.
5. / Record the time taken for the tin to stop swinging.

(v)		