

**Bab / Chapter 1 : Pengenalan kepada Fizik / Introduction to Physics**

1. Which quantity is a derived quantity?

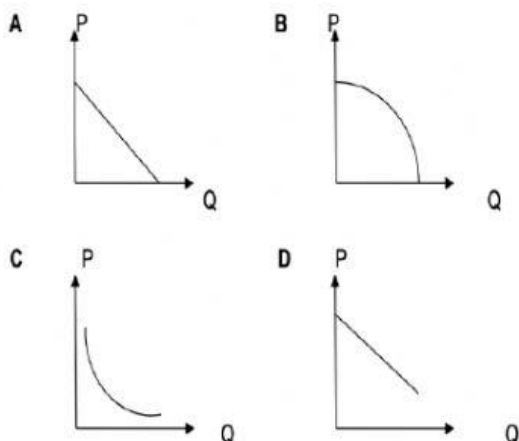
*Kuantiti manakah adalah kuantiti terbitan?*

- A Force / Daya
- B Amount of substance / Kuantiti bahan
- C Current / Arus
- D Luminous Intensity / Keamatan cahaya

3. Antara yang berikut, yang manakah kuantiti asas?  
Which of the following is a base quantity?

- A Berat  
Weight
- B Isipadu  
Volume
- C Kuantiti haba  
Amount of heat
- D Keamatan berluminesiti  
Luminous intensity

4. Graf manakah menunjukkan P berkadar songsang dengan Q ?  
Which graph shows P is inversely proportional to Q ?



2. Diagram 1 shows Richard stands at O. He walks towards A, then move towards B and stops at B.

*Rajah 1 menunjukkan Richard berdiri pada titik O. Dia berjalan ke arah A, kemudian bergerak ke arah B dan berhenti di B.*

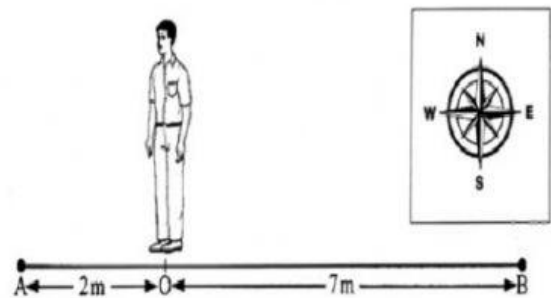


Diagram 1  
Rajah 1

What is the displacement of Richard?

*Apakah sesaran Richard?*

- A 9 m towards west  
9 m ke barat
- B 7 m towards east  
7 m ke timur
- C 5 m towards east  
5 m ke timur
- D 2 m towards west  
2 m ke barat

5. Apakah kuantiti-kuantiti asas dalam pecutan?  
What are the base quantities in acceleration?

- A. Laju dan masa  
Speed and time
- B Panjang dan masa  
Length and time
- C. Panjang dan laju  
Length and speed
- D. Laju dan halaju  
Speed and velocity

6. Satu zarah bergerak dari titik P ke titik Q dalam masa, T. Antara pernyataan berikut yang manakah benar tentang halaju purata dan pecutan purata bagi zarah tersebut.

*A particle moves from a point P to a point Q in a time T. Which one of the following correctly defines both the average velocity and average acceleration of the particle?*

|    | Halaju purata<br><i>Average velocity</i>                                     | Pecutan purata<br><i>Average acceleration</i>                                     |
|----|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| A. | Sesaran Q dari P<br>$\frac{\text{Displacement of Q from P}}{T}$              | Perubahan laju dari P ke Q<br>$\frac{\text{Change in speed from P to Q}}{T}$      |
| B. | Jarak Q dari P<br>$\frac{\text{Distance of Q from P}}{T}$                    | Perubahan halaju dari P ke Q<br>$\frac{\text{Change in velocity from P to Q}}{T}$ |
| C. | Jarak di antara Q dan P<br>$\frac{\text{Distance between Q and P}}{T}$       | Perubahan laju dari P ke Q<br>$\frac{\text{Change in speed from P to Q}}{T}$      |
| D. | Sesaran di antara Q dan P<br>$\frac{\text{Displacement between Q and P}}{T}$ | Perubahan halaju dari P ke Q<br>$\frac{\text{Change in velocity from P to Q}}{T}$ |

7. Which of the following quantity is not basic quantity?

- A Length  
B Time  
C Electric current  
D Quantity of charge

8. Diagram 1 below shows a graph.

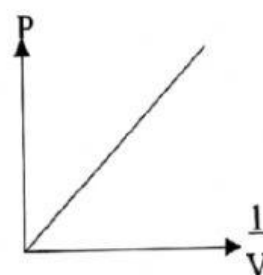


Diagram 1

What is the relationship of the graph shown in Diagram 1?

- A P is decreasing linearly with V  
B P is directly proportional to V  
C When V increases, P increases  
D P is inversely proportional to V

9. Antara berikut yang manakah simbol bagi unit asas SI?  
*Which of the following is a symbol of a base SI unit?*

- A m  
B g  
C N  
D °C

10. Antara kuantiti fizik yang berikut, manakah dipadankan dengan unit SI yang betul?  
*Which of the following physical quantities matched with the correct SI unit?*

|   | Physical quantity<br><i>Kuantiti fizik</i> | SI unit<br><i>Unit SI</i>     |
|---|--------------------------------------------|-------------------------------|
| A | Time<br><i>Masa</i>                        | Minute<br><i>Minit</i>        |
| B | Mass<br><i>Jisim</i>                       | Kilogram<br><i>Kilogram</i>   |
| C | Length<br><i>Panjang</i>                   | Kilometer<br><i>Kilometer</i> |
| D | Force<br><i>Daya</i>                       | Joule<br><i>Joule</i>         |

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Antara berikut yang manakah kesemuanya kuantiti terbitan?  
Which of the following are all derived quantities?

- A Daya, masa, panjang  
Force, time, length
- B Momentum, daya, halaju  
Momentum, force, velocity
- C Panjang, halaju, suhu  
Length, velocity, temperature
- D Masa, suhu, arus elektrik  
Time, temperature, electric current

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Suhu dan tenaga boleh dikelaskan sebagai  
Temperature and energy can be classified as

- |                                           |                                        |
|-------------------------------------------|----------------------------------------|
| A kuantiti asas<br>base quantities        | C kuantiti skalar<br>scalar quantities |
| B kuantiti terbitan<br>derived quantities | D kuantiti vektor<br>vector quantities |

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Rajah 2 menunjukkan situasi di taman permainan.  
Diagram 2 shows situation in a playground.



Rajah / Diagram 2

Apakah pembolehubah dimanipulasikan dan pembolehubah bergerak balas yang sesuai?  
What is the suitable manipulated variable and responding variable?

|    | Pembolehubah dimanipulasikan<br>Manipulated variable | Pembolehubah bergerak balas<br>Responding variable |
|----|------------------------------------------------------|----------------------------------------------------|
| A. | Jisim ladung<br>Mass of bob                          | Tempoh ayunan<br>Period of oscillation             |
| B. | Panjang bandul<br>Length of pendulum                 | Tempoh ayunan<br>Period of oscillation             |
| C. | Kelajuan bandul<br>Speed of pendulum                 | Panjang bandul<br>Length of pendulum               |
| D. | Tempoh ayunan<br>Period of oscillation               | Kelajuan bandul<br>Speed of pendulum               |

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Antara kuantiti fizik berikut, yang manakah **bukan** kuantiti terbitan?  
Which of the following physical quantities is **not** a derived quantity?

- |                          |                       |
|--------------------------|-----------------------|
| A Frekuensi<br>Frequency | C Halaju<br>Velocity  |
| B Jisim<br>Mass          | D Tekanan<br>Pressure |

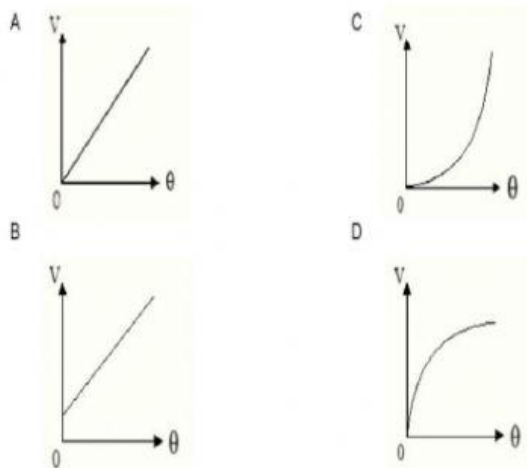
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Pasangan manakah yang terdiri daripada kuantiti terbitan sahaja?  
Which pair consists of only derived quantities?

- A Jarak dan suhu  
Distance and temperature
- B Jisim dan ketumpatan  
Mass and density
- C Arus elektrik dan halaju  
Electric current and velocity
- D Halaju dan cas  
Velocity and charge

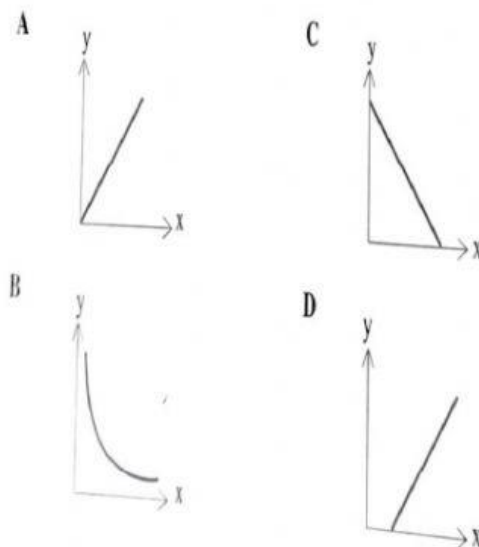
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Graf manakah menunjukkan hubungan  $V$  bertambah secara linear dengan  $\theta$ ?  
Which graph shows a relationship of  $V$  increasing linearly with  $\theta$ ?



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Graf manakah mewakili hubungan  $y$  berkadar songsang dengan  $x$ ?  
Which graph represents the relationship of  $y$  is inversely proportional to  $x$ ?



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Kuantiti manakah adalah kuantiti vektor?  
Which quantity is a vector quantity?

- A Jisim  
Mass
- B Tenaga  
Energy
- C Tekanan  
Pressure
- D Momentum  
Momentum

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Antara berikut yang manakah kuantiti asas dan unit SI yang betul?  
Which of the following base quantity and its SI unit is correct?

|   | Kuantiti asas<br>Based quantity | Unit S.I.<br>S.I. unit |
|---|---------------------------------|------------------------|
| A | Jisim<br>Mass                   | g                      |
| B | Arus<br>Current                 | mA                     |
| C | Masa<br>Time                    | h                      |
| D | Suhu<br>Temperature             | K                      |

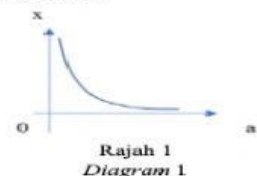
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Pasangan kuantiti manakah adalah benar?  
Which pair of quantity is correct?

|   | Kuantiti skalar<br>Scalar quantity                         | Kuantiti vektor<br>Vector quantity                         |
|---|------------------------------------------------------------|------------------------------------------------------------|
| A | Mempunyai magnitud sahaja<br>Has magnitude only            | Mempunyai magnitud sahaja<br>Has magnitude only            |
| B | Mempunyai arah sahaja<br>Has direction only                | Mempunyai magnitud sahaja<br>Has magnitude only            |
| C | Mempunyai magnitud sahaja<br>Has magnitude only            | Mempunyai magnitud dan arah<br>Has magnitude and direction |
| D | Mempunyai magnitud dan arah<br>Has magnitude and direction | Mempunyai arah sahaja<br>Has direction only                |

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Rajah 1 menunjukkan graf  $x$  melawan  $a$ .  
Diagram 1 shows the graph of  $x$  against  $a$ .



Apakah hubungan antara  $x$  dan  $a$ ?  
What is the relationship between  $x$  and  $a$ ?

- A  $x$  berkadar secara songsang kepada  $a$ .  
 $x$  is inversely proportional to  $a$ .
- B  $x$  berkurang secara linear kepada  $a$ .  
 $x$  decreases linearly to  $a$ .
- C  $x$  berkurang secara linear kepada  $\frac{1}{a}$ .  
 $x$  decreases linearly to  $\frac{1}{a}$ .
- D  $x$  berkadar secara langsung kepada  $\frac{1}{a}$ .  
 $x$  is directly proportional to  $\frac{1}{a}$ .