Tugasan PEKA 1

Kaji situasi di bawah.
Study the situation below.



Aktiviti yang dijalankan oleh seseorang memberikan kesan terhadap kadar denyutan nadinya.
The activity carried out by a person affects the pulse rate.

1. Nyatakan inferens bagi dapatan eksperimen ini.
State the inference from the findings of the experiment.

Semakin lasak aktiviti yang dijalankan, semakin tinggi kadar denyutan nadi. Hal ini adalah kerana jantung perlu membekalkan lebih banyak oksigen kepada badan.

The more vigorous the activity, the higher the pulse rate. This is because the heart needs to pump more oxygen to the body.

2. Jelaskan hubungan antara pemboleh ubah dimanipulasikan dengan pemboleh ubah bergerak balas.
Describe the relationship between the manipulated variable and the responding variable.

Semakin lasak aktiviti yang dijalankan, semakin tinggi kadar denyutan nadi.

The more vigorous the activity, the higher the pulse rate.

3. Berikan definisi secara operasi bagi kadar denyutan nadi.
Give the operational definition for pulse rate.

Kadar denyutan nadi ialah nilai yang ditunjukkan oleh kadar denyutan nadi yang meningkat selepas aktiviti berlari dijalankan.

Pulse rate is the value shown by the increased pulse rate after the running activity.

4. Apakah kesimpulan yang boleh dibuat berdasarkan keputusan eksperimen?
What is the conclusion that can be made from the results of this experiment?

Semakin lasak aktiviti yang dijalankan, semakin tinggi kadar denyutan nadi.

The more vigorous the activity, the higher the pulse rate.

5. Selain daripada aktiviti fizikal, namakan **dua** faktor lain yang memberi kesan kepada kadar denyutan nadi manusia.
*Apart from physical activity, name **two** factors that affect the pulse rate for humans.*

Jantina dan umur / *Gender and age*

6. Selepas melakukan aktiviti berlari, adakah bacaan nadi yang diambil sama dengan sebelum melakukan aktiviti berlari? Wajarkan jawapan anda.
After running, is the pulse reading taken the same as before running? Justify your answer.

Tidak sama. Kadar denyutan nadi bertambah selepas aktiviti berlari kerana jantung perlu mengepam darah dengan lebih laju untuk membekalkan lebih oksigen ke seluruh badan.

Not the same. The pulse rate increases after running because the heart has to pump blood faster to supply more oxygen to the body.

7. Atlet mempunyai kadar denyutan nadi yang lebih rendah berbanding dengan individu bukan atlet dalam keadaan rehat. Berikan sebabnya.
Athletes have a lower pulse rate than non-athletes at rest. Give the reason.

Atlet mempunyai kadar denyutan nadi lebih rendah kerana otot kardium mereka lebih kuat.

Athletes have lower pulse rates because their cardiac muscles are stronger.

8. Cadangkan penambahbaikan untuk mendapatkan data yang jitu.
Suggest improvements to obtain more accurate data.

- Memastikan jantina sampel adalah sama setiap kali eksperimen dijalankan.

  Ensure that the gender of the sample is the same each time the experiment is conducted.
- Memastikan tempoh masa aktiviti yang dijalankan adalah sama pada setiap kali eksperimen dijalankan.

  Ensure that the duration of the activity is the same each time the experiment is conducted.
- Memastikan umur sampel adalah sama setiap kali eksperimen dijalankan.

  Ensure that the sample age is the same each time the experiment is conducted.
- Memastikan bacaan diambil selepas berehat 5 minit.

  Ensure that the reading is taken after a 5-minute break.

9. Adakah dapatan eksperimen yang anda peroleh boleh diterima? Jelaskan jawapan anda.
Can the findings that you have obtained from the experiment be accepted? Explain your answer.

Ya, kerana setelah penyiasatan dijalankan, didapati kadar denyutan nadi lebih tinggi selepas melakukan aktiviti yang lebih lasak kerana jantung perlu mengepam lebih banyak darah untuk membekalkan oksigen ke seluruh badan.

Yes, because after the investigation was carried out, it was found that pulse rates are higher after a more vigorous activity as the heart needs to pump more blood to provide oxygen to the rest of the body.