GERAK GEMPUR 6

Linear Inequalities in Two Variables
Ketaksamaan Linear dalam Dua Pemboleh Ubah

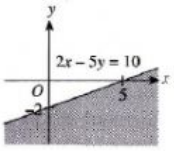
PAPER 1

1. Which of the following points satisfies the linear inequality $y > 3x - 1$?
Antara titik berikut, yang manakah memuaskan ketaksamaan linear $y > 3x - 1$?

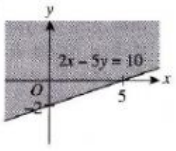
A (2, 4) **B** (1, 2)
C (0, −2) **D** (−1, 0)

2. Which shaded region in the diagram is defined by the linear inequality $2x - 5y < 10$?
Rantau berlorek manakah dalam rajah di bawah ditakrifkan oleh ketaksamaan linear $2x - 5y < 10$?

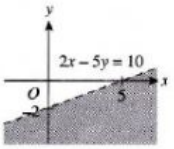
A



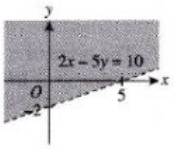
B



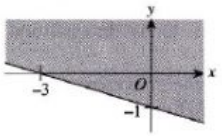
C



D



3.



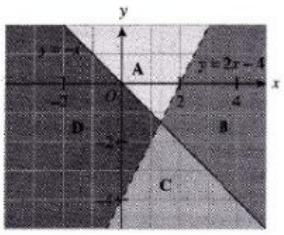
Which of the following linear inequalities represents the shaded region in the above diagram?
Antara ketaksamaan linear berikut, yang manakah mewakili rantau berlorek dalam rajah di atas?

A $3y \geqslant -x - 3$
B $3y \geqslant -x - 1$
C $3y \leqslant -x - 3$
D $3y \leqslant -x - 1$

4. Which point does **not** satisfy the linear inequality $2x + 3y \leqslant 5$?
Titik manakah **tidak** *memuaskan ketaksamaan linear* $2x + 3y \leqslant 5$?

A (−2, 1) **B** (0, −1)
C (2, 1) **D** (4, −1)

5.

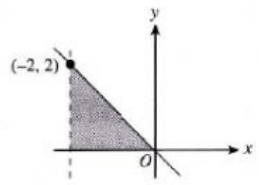


Which of the regions, **A**, **B**, **C** or **D** in the above diagram, satisfies the linear inequalities $y \geqslant -x$ and $y < 2x - 4$?
Antara rantau **A**, **B**, **C** *dan* **D** *dalam rajah di atas, yang manakah memuaskan ketaksamaan linear* $y \geqslant -x$ *dan* $y < 2x - 4$?

6. A factory produces p handphones of model X and r handphones of model Y. The number of handphones of model Y cannot exceed the number of handphones of model X by more than 150. Which linear inequality represents the situation?
Sebuah kilang menghasilkan p *buah telefon bimbit model* X *dan* r *buah telefon bimbit model* Y. *Bilangan telefon bimbit model* Y *tidak boleh melebihi bilangan telefon bimbit model* X *lebih daripada* 150 *buah. Ketaksamaan linear manakah mewakili situasi itu?*

A $p - r \geqslant 150$
B $p - r < 150$
C $r - p < 150$
D $r - p \leqslant 150$

7.

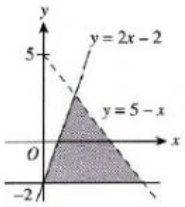


The shaded region in the above diagram is defined by the following linear inequalities **except**

Rantau berlorek dalam rajah di atas ditakrifkan oleh ketaksamaan linear berikut **kecuali**

A $x > -2$
B $x \geqslant 0$
C $y \leqslant -x$
D $y \geqslant 0$

8.

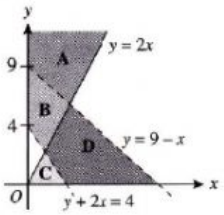


State the system of linear inequalities which defines the shaded region in the above diagram.

Nyatakan sistem ketaksamaan linear yang mentakrifkan rantau berlorek dalam rajah di atas.

A $y \geqslant 2x - 2,\ y < 5 - x,\ y \geqslant -2$
B $y \leqslant 2x - 2,\ y < 5 - x,\ y \geqslant -2$
C $y \leqslant 2x - 2,\ y \geqslant 5 - x,\ y \leqslant -2$
D $y \leqslant 2x - 2,\ y > 5 - x,\ y \geqslant -2$

9.



Which of the regions, **A**, **B**, **C** or **D**, in the above diagram, satisfies the system of linear inequalities $x \geqslant 0$, $y \geqslant 2x$, $y < 9 - x$ and $y + 2x > 4$?

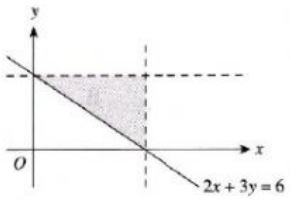
Antara rantau **A**, **B**, **C** *dan* **D** *dalam rajah di atas, yang manakah memuaskan sistem ketaksamaan linear* $x \geqslant 0$, $y \geqslant 2x$, $y < 9 - x$ *dan* $y + 2x > 4$?

10. Which point satisfies the linear inequalities $y \geqslant 6 - x$ and $y \geqslant \frac{1}{2}x + 1$?

Titik manakah yang memuaskan ketaksamaan linear $y \geqslant 6 - x$ *dan* $y \geqslant \frac{1}{2}x + 1$?

A (1, 3)
B (2, 1)
C (3, 4)
D (6, 2)

11.



State the linear inequality, other than $2x + 3y \geqslant 6$ and $y < 2$, which satisfies the shaded region in the above diagram.

Nyatakan ketaksamaam linear, selain $2x + 3y \geqslant 6$ *dan* $y < 2$, *yang memuaskan rantau berlorek dalam rajah di atas.*

A $x > 2$
B $x < 2$
C $x > 3$
D $x < 3$

12. The price of a T-shirt is RM60 and the price of a blouse is RM80. Alice wants to use RM500 to buy x T-shirts and y blouses with a balance which is at most RM50. The number of T-shirts that she buys is more than the number of blouses. She buys at least 3 blouses. Which system of linear inequalities represents the situation?

Harga sehelai kemeja-T ialah RM60 *dan harga sehelai blaus ialah* RM80. *Alice ingin untuk menggunakan* RM500 *untuk membeli helai* x *kemeja-T dan* y *helai blaus dengan baki wang selebih-lebihnya* RM50. *Bilangan kemeja-T yang dibelinya adalah melebihi bilangan blaus. Dia membeli sekurang-kurangnya* 3 *helai blaus. Sistem ketaksamaan linear manakah yang mewakili situasi itu?*

A $x > y,\ y \geqslant 3,\ 60x + 80y \leqslant 450$
B $x > y,\ x \geqslant 3,\ 60x + 80y \geqslant 450$
C $y > x,\ y \geqslant 3,\ 60x + 80y \geqslant 450$
D $x < y,\ x \geqslant 3,\ 60x + 80y \leqslant 450$