

Jawab **semua** soal
Answer **all** questions

1. Ungkapkan $(p + 3)(2p - 2) = 4p - 3$ sebagai persamaan kuadrat dalam bentuk am
Express $(p + 3)(2p - 2) = 4p - 3$ in the general form of quadratic equations.

- A $2p^2 + 3 = 0$
- B $2p^2 - 3 = 0$
- C $2p^2 + 4p + 3 = 0$
- D $2p^2 + 4p - 3 = 0$

2. Selesaikan
Solve

$$\frac{5p + 21}{p - 3} = 2p$$

- A $-7, -\frac{3}{2}$
- B $-7, \frac{3}{2}$
- C $7, -\frac{3}{2}$
- D $7, \frac{3}{2}$

3. Ungkapkan persamaan kuadrat $\frac{1}{2}y^2 = 12 - y$ dalam bentuk am.

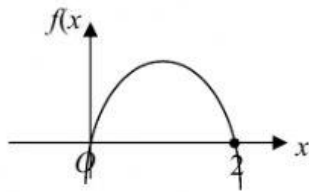
Express the quadratic $\frac{1}{2}y^2 = 12 - y$ in general form.

- A $y^2 - 2y + 24 = 0$
- B $y^2 - 2y - 24 = 0$
- C $y^2 + 2y + 24 = 0$
- D $y^2 + 2y - 24 = 0$

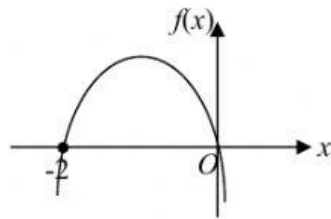
4.

Which graph represent $f(x) = x^2 + 2x$

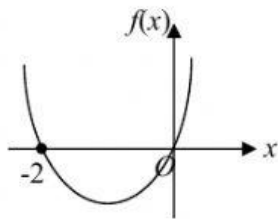
A



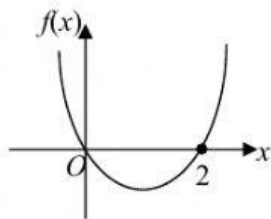
B



C



D



5. $(p - 3) - (2p + 3)^2 =$

A $-4p^2 + p - 12$

B $-4p^2 + 13p + 6$

C $-4p^2 - 11p - 12$

D $-4p^2 - 11p + 6$

6. Diberi bahawa $(2x - 4)(x + 5) = 0$. Tentukan nilai-nilai bagi x .
Given that $(2x - 4)(x + 5) = 0$. Determine the values of x .
- A $x = -2, -5$
B $x = 2, -5$
C $x = 2, 5$
D $x = -2, 5$
7. P dan Q adalah dua nombor dalam asas 2. Beza antara P dan Q ialah 10011_2 . Nyatakan nilai bagi P dan Q.
- A $P = 110_2$ $Q = 11011_2$
B $P = 101_2$ $Q = 11010_2$
C $P = 1010_2$ $Q = 11011_2$
D $P = 1100_2$ $Q = 11111_2$
8. $1101101_2 - 10101_2 =$
- A 1001000_2
B 1010100_2
C 1011000_2
D 1101000_2
9. Diberi $48_9 + y_9 = 118_9$, hitung nilai y .
Given $48_9 + y_9 = 118_9$, calculate the value of y
- A 100
B 105
C 500
D 501
10. Apakah nilai bagi digit yang bergaris $5\underline{4}3_6$ dalam asas 10.
What is the digit value of the underline $5\underline{4}3_6$ in base 10
- A 24
B 40
C 120
D 144

11. Tulis $2^5 + 2^3 + 2^2 + 2 + 1$ sebagai nombor dalam asas dua.
Write $2^5 + 2^3 + 2^2 + 2 + 1$ as a number in base two
- A 100110_2
 - B 101110_2
 - C 101111_2
 - D 111111_2

12. Antara pernyataan berikut yang manakah pernyataan benar?
Which of following statement is true statement?

- A $1^0 = 1$
- B $13 \times 2 = 3 \times 13$
- C 9 ialah nombor perdana
9 is a prime number
- D Semua sudut tirus lebih daripada 90°
All acute angles greather than 90°

13. Yang manakah adalah penafian bagi pernyataan berikut?
Which is the negation of following statement?

12 ialah gandaan bagi 6
12 is a multiple of 6

- A 24 ialah gandaan bagi 6
24 is a multiple of 6
- B 6 ialah gandaan bagi 12
6 is a multiple of 12
- C 12 bukan gandaan bagi 6
12 is not a multiple of 6
- D 24 bukan gandaan bagi 12
12 is not a multiple of 12

14. Antara berikut, yang manakah adalah pernyataan benar?

Which of following is a true statement?

- A $2 \times 3 = 5$ atau $-1 < -5$
 $2 \times 3 = 5$ or $-1 < -5$
- B $6 \times 5 = 30$ dan $6 \div 5 = 1.1$
 $6 \times 5 = 30$ and $6 \div 5 = 1.1$
- C 3 ialah nombor perdana dan gandaan bagi 3
3 is a prime number and multiple of 3
- D Semua piramid mempunyai tapak segi empat sama
All of pyramids have a square base.

15. Apakah antejadian bagi implikasi di bawah?

What is the antecedent of the implication below?

Jika $3m = 18$, maka $m = 6$
If $3m = 18$, then $m = 6$

- A 6
- B 18
- C $3m = 18$
- D $m = 6$

16. Diberi bahawa:

Given that:

$$\xi = \{ x: x \text{ ialah integer dan } 5 \leq x \leq 15 \}$$

$$\xi = \{ x: x \text{ is an integer and } 5 \leq x \leq 15 \}$$

$$L = \{ \text{Nombor 2 digit} \}$$

$$L = \{ \text{Two digits numbers} \}$$

$$M = \{ \text{Gandaan 3} \}$$

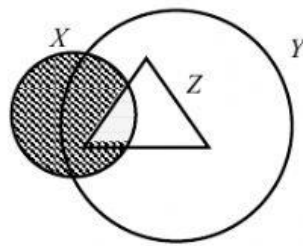
$$M = \{ \text{Multiples of 3} \}$$

Nyatakan bilangan unsur bagi set $(L \cap M)'$.

State the number of elements of set $(L \cap M)'$.

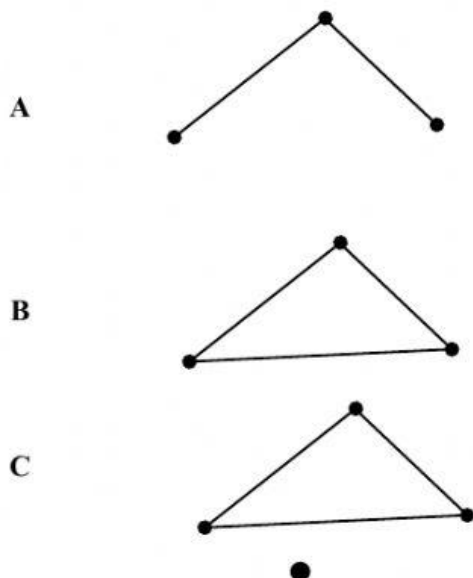
- A 4
- B 7
- C 9
- D 11

17. Antara berikut, yang manakah mewakili kawasan berlorek seperti ditunjukkan pada Rajah 11?
Which of the following represents the shaded region as shown in Diagram 11?

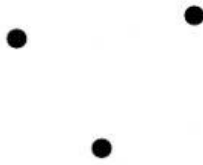


Rajah 11
Diagram 11

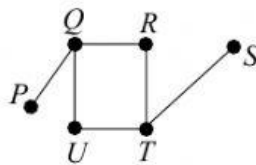
- A $X \cap Y \cap Z$
B $X \cap Y \cup Z$
C $X \cap (Y \cup Z)'$
D $X \cap (Y \cap Z)'$
18. Di beri bahawa set semesta $\xi = K \cup L$ dan set $k = \{ a, e, i, o, u \}$ dan set $L = \{ b, e, o, t, u \}$.
Cari nilai $n(\xi)$
A 3
B 8
C 7
D 5
19. Antara berikut yang manakah bukan rangkaian
Which of the following is not a network



D



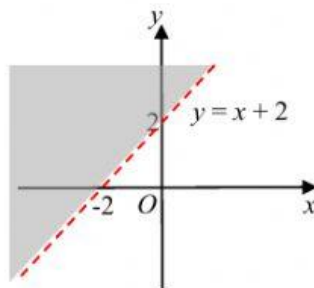
20. Rajah 2 menunjukkan satu graf mudah.
Diagram 2 shows a simple graph.



Rajah 2
Diagram 2

Tentukan bilangan darjah bagi graf tersebut?
Determine the sum of degree of the graph?

- A 3
B 6
C 9
D 12
21. Rajah 4 menunjukkan satu rantau berlorek yang dilukis pada satah Cartes.
The diagram 4 shows a shaded region drawn on a Cartesian plane.



Antara ketaksamaan berikut, yang manakah mewakili rantau berlorek?
Which of the following is the linear inequality that represent the shaded region?

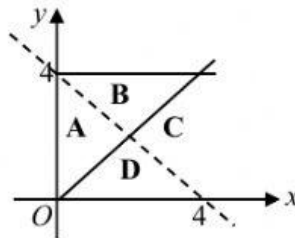
- A $x - y < 2$

B $x - y < -2$

C $x - y \leq 2$

D $x - y \leq 2$

22. Rajah 5 menunjukkan graf bagi suatu system ketaksamaan linear
The diagram 5 shows the graph of a system of linear inequalities.



Rajah 5
Diagram 5

Antara rantau A, B, C dan D yang manakah memuaskan system ketaksamaan $y > -x + 4$, $y \geq x$ dan $y \leq 4$.

Which region A, B, C and D, satisfying the system of inequalities $y > -x + 4$, $y \geq x$ and $y \leq 4$.

23. Sebuah kilang menghasilkan dua jenis kasut sukan. Kasut sukan jenama x adalah untuk kanak-kanak dan kasut sukan jenis y adalah untuk orang dewasa. Syarat – syarat pengeluaran kedua –dua jenis kasut sukan dalam tempoh seminggu seperti yang berikut:
A factory produces two types of sports shoes. The sports shoes brand x are for children and brand y are for adults. The conditions of production of both types of sports shoes within a week are as follows:

Pengeluaran **maksimum** kasut ialah 500 sepasang
Maximum production of shoes is 500 pairs

Tentukan ketaksamaan linear yang memenuhi pernyataan di atas.
Determine the linear inequalities that satisfies the above statement.

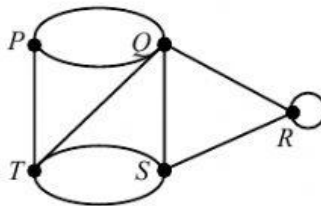
A $x + y > 500$

B $x + y < 500$

C $x + y \geq 500$

D $x + y \leq 500$

24. Antara berikut titik manakah memuaskan ketaksamaan $2x + 7y > 10$
Which of the following points satisfies linear inequalities $2x + 7y > 10$
- A $(-3, 3)$
 - B $(-3, 2)$
 - C $(-3, 1)$
 - D $(-3, 0)$
25. Rajah 14 menunjukkan satu graf berbilang tepi yang mempunyai gegelung dengan lima bucu ditanda $PQRST$.
Diagram 14 shows a multi-edged graph having a loop with five vertices marked $PQRST$.



Rajah 14
 Diagram 14

Tentukan $\sum d(v)$

- A 9
 - B 10
 - C 19
 - D 20
26. Diberi dua set, P dan Q , dengan keadaan bilangan unsur bagi set P dan set Q masing-masing ialah 9 dan 5. Jika jumlah unsur bagi set semesta ialah 11, cari nilai yang mungkin bagi $n(P \cap Q)$.
Given two sets, P and Q , are such that the number of elements for set P and set Q are 9 and 5 respectively. If the total number of elements for universal set is 11, find the possible value of $n(P \cap Q)$.
- A 1
 - B 3
 - C 6
 - D 7

KERTAS SOALAN TAMAT
END OF QUESTION PAPER