

Answer **all** questions
Jawab **semua** soalan.

**PECUTAN MATEMATIK PMR
SET 1**

- 1** Calculate the value of $20 + (-15 + 9)$.
Hitungkan nilai bagi $20 + (-15 + 9)$.

[2 marks]
[2 markah]

Answer/ Jawapan:

1

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| 2 |

- 2** Calculate the value of $(10 - 3.5) \times \frac{2}{5}$ and express answers correct to two decimal places.

Hitungkan nilai bagi $(10 - 3.5) \times \frac{2}{5}$ dan ungkapkan jawapan itu betul kepada dua tempat perpuluhan

[2 marks]
[2 markah]

Answer/ Jawapan:

2

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| 2 |

- 3** (a) Find the value of
Cari nilai bagi;

$$\sqrt[3]{-27}$$

- (b) Calculate the value of
Hitung nilai bagi;

$$\left(1 - \sqrt{\frac{9}{16}}\right)^3$$

[3 marks]
[3 markah]

Answer/ Jawapan:

(a)

3

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(b)

- 4 Simplify each of the following expressions:
Permudahkan tiap-tiap ungkapan berikut:

(a) $-4k(-k + 2)$

(b) $3e - 6 + 2 - 5e$

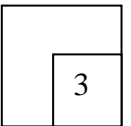
[3 marks]
[3 markah]

Answer/ Jawapan:

(a)

(b)

4



- 5 Solve of each of the following equations:
Selesaikan tiap-tiap persamaan berikut:

(a) $5p = 2$

(b) $\frac{5x}{3} - 4 = 1$

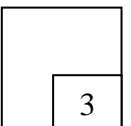
[3 marks]
[3 markah]

Answer/ Jawapan:

(a)

(b)

5



[Lihat sebelah
SULIT

- 6 Diagram 6 in the answer space shows two triangles JKL and $J'K'L$, drawn on a grid of equal squares. Triangle $J'K'L$ is the image of JKL under a reflection.
Rajah 6 di ruang jawapan menunjukkan dua buah segitiga, JKL and $J'K'L$ dilukis pada grid segi empat sama. Segitiga $J'K'L$ ialah imej kepada JKL di bawah satu pantulan.

On the Diagram 6, draw the axis of reflection.
Pada Rajah 6, lukis paksi pantulan itu.

[2 marks]
[2 markah]

Answer/ *Jawapan:*

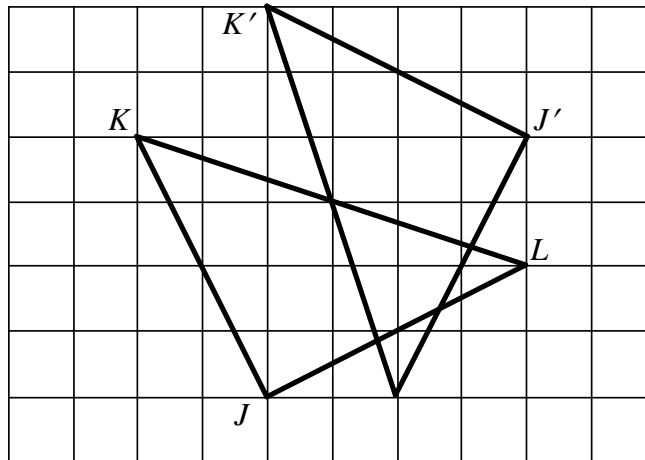


Diagram 6

6

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- 7 Simplify $2x^3 y^2 \times 4x^4 y^5$
Permudahkan $2x^3 y^2 \times 4x^4 y^5$

[3 marks]
[3 markah]

Answer/ *Jawapan:*

7

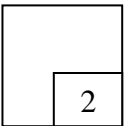
| |
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| 3 |

- 8 Given $km = j - mn$, express m in terms of k and j .
Diberi $km = j - mn$, ungkapkan m dalam sebutan k dan j .

[3 marks]

Answer/ Jawapan:

8



- 9 Diagram 9 shows two quadrilaterals, A and A' , drawn on a grid of equal squares with sides of 1 unit.
Rajah 9 menunjukkan dua buah sisi empat, A dan A' , yang dilukis pada segi empat sama dengan sisi 1 unit.

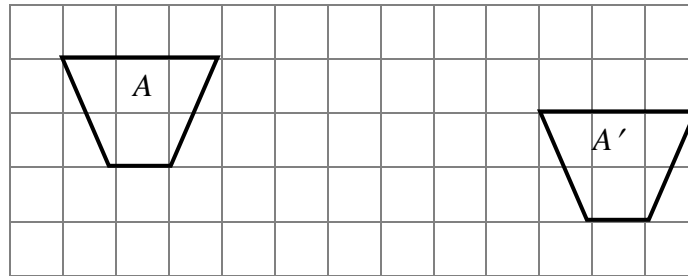


Diagram 9

Rajah 9

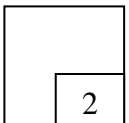
A' is the image of A under transformation. Describe in full transformation M .
 A' ialah image kepada A di bawah suatu penjelmaan. Huraikan penjelmaan M .

[2 marks]

[2 markah]

Answer/ Jawapan:

9

[Lihat sebelah
SULIT

For
Examiner's
Use

10 Diagram 10 in the answer space shows a regular hexagon ABCDEF. Y and Z are two moving points in the hexagon.

Rajah 10 di ruang jawapan menunjukkan sebuah heksagon sekata. ABCDEF. Y dan Z adalah tiga titik bergerak di dalam heksagon itu.

On Diagram 3, draw

Pada Rajah 3, lukis

- (a) (i) the locus of point Y such that $YE = EF$
locus bagi titik Y dengan keadaan $YE = EF$.
- (ii) the locus of Z such that it is always equidistant from point A and point D.
locus bagi titik Z dengan keadaan jaraknya sentiasa sama dari titik A dan titik D.
- (b) Hence, mark with the symbol \otimes the intersection of the locus of Y and the locus of Z.
Seterusnya, tandakan dengan symbol \otimes persilangan bagi locus Y dan locus Z.

[5 marks]

[5 markah]

Answer/ Jawapan:

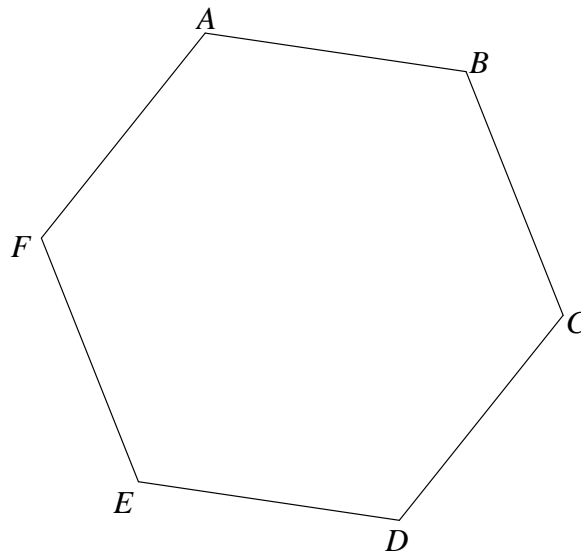
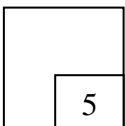


Diagram 10

Rajah 10

10



- 11 Express $\frac{1}{2m} - \frac{m+2}{6m^2}$ as single fraction in its simplest form.

Ungkapkan $\frac{1}{2m} - \frac{m+2}{6m^2}$ sebagai pecahan tunggal dalam bentuk termudah.

[3 marks]

[3 markah]

Answer/ Jawapan:

11

3

- 12 Diagram 12.1 shows a triangle PQR drawn not to scale.
Rajah 12.1 menunjukkan sebuah segitiga PQR yang dilukis tidak mengikut skala.

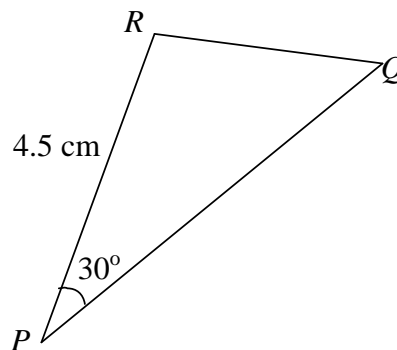


Diagram 12.1

Rajah 12.1

Diagram 12.2 in the answer space shows a straight line PQ .
Rajah 12.2 di ruang jawapan menunjukkan garis lurus PQ .

- (a) Using only ruler and a pair of compasses, construct
Menggunakan pembaris dan jangka lukis sahaja, bina
- triangle PQR to the measurements shows in Diagram 12.1.
segi tiga PQR ukuran seperti yang ditunjukkan dalam Rajah 12.1
 - the perpendicular line to the straight line PQ which passes through the point R .
garis serenjang kepada garis lurus PQ yang melalui titik R .
- (b) Measure the perpendicular distance between straight line PQ and point R .
Ukur jarak tegak di antara garis lurus PQ dan titik R .

[6 marks]

[6 markah]

[Lihat sebelah
SULIT

Answer:

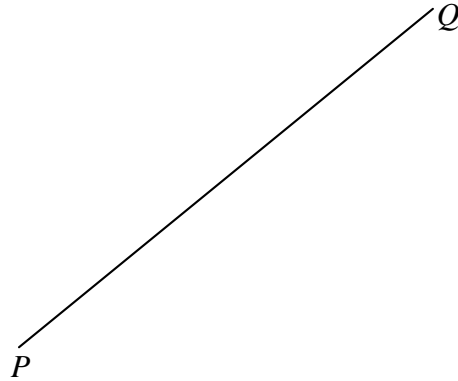


Diagram12.2
Diagram12.2

12

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| 6 |

13. Simplify
Permudahkan
 $(4y - 1)^2 - 2y$.

[2 marks]
[2 markah]

Answer/ *Jawapan*:

13

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| 2 |

14 Given that
Diberi
 $2^{1+3m} = 1$.
Calculate the value of m
Cari nilai bagi m .

marks]

[2

markah]

[2

14

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Answer/ *Jawapan*:

**[Lihat sebelah
SULIT**

- 15 Table 15 shows the score of a quiz for a group of students
Jadual 15 menunjukkan skor suatu quiz yang diperolehi

| | | | | | |
|-------------------------------|---|---|---|----|----|
| Score <i>Skor</i> | 2 | 4 | 6 | 8 | 10 |
| Frequency <i>Kekerapan</i> | 4 | 6 | 8 | 10 | 2 |

Table 15
Jadual 15

Calculate the mean of the score.
Cari min bagi skor itu.

[3 marks]
[3 markah]

Answer/ *Jawapan:*

15

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| 3 |

- 16 Factorise completely
Faktor selengkapnya

$$4e^2 - 1$$

[2 marks]
[2 markah]

Answer / *Jawapan:*

16

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- 17 Solve each of the following inequalities:
Selesaikan tiap-tiap ketaksamaan berikut:

- (a) $4 - e > 1$
(b) $6r - 4 \leq 3r - 10$

[3 marks]
[3 markah]

Answer/ *Jawapan:*

17

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[Lihat sebelah
SULIT

For
Examiner's
Use

- 18** Table 18 shows the ambitions of 40 students in a class.
Jadual 18 menunjukkan cita-cita 40 pelajar dalam sebuah kelas.

| Ambition <i>Cita-cita</i> | Number of students <i>Bilangan pelajar</i> |
|------------------------------|---|
| Doctor <i>Doktor</i> | 13 |
| Engineer <i>Jurutera</i> | 12 |
| Architech <i>Arkitek</i> | x |
| Lawyer <i>Peguam</i> | 8 |

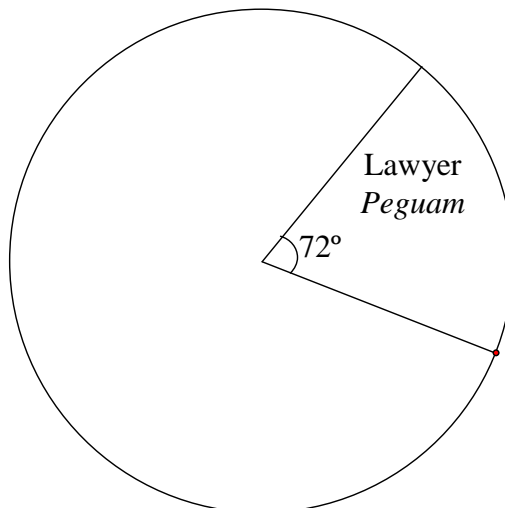
Table 18
Jadual 18

- (a) Find the value of x .
Cari nilai bagi x .
- (b) Complete the pie chart provided in the answer space to represent the data given above.
Lengkapkan carta pai yang disediakan di ruang jawapan bagi mewakili data yang diberi di atas.

[4 marks]
[4 markah]

Answer/ *Jawapan:*

- (a)
(b)



[Lihat sebelah
SULIT

18

4

19. In Diagram 19, PQR and RST are right-angled triangles. PTR is a straight line. T is the midpoint of PR .
 Dalam Rajah 19, PQR dan RST ialah segitiga bersudut tegak. PTR ialah garis lurus. T titik tengah bagi PR .

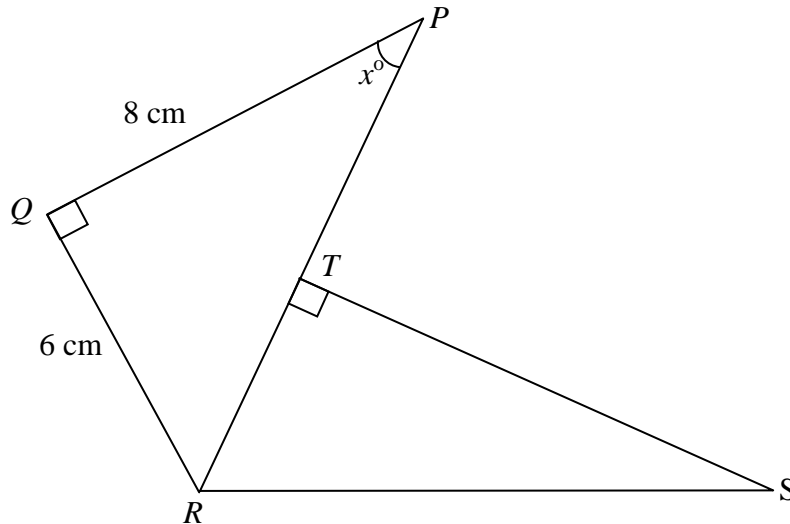


Diagram 19
Rajah 19

- (a) State the value of $\sin x^\circ$.
 Nyatakan nilah bagi $\sin x^\circ$.
- (b) Given that $\cos \angle SRT = \frac{1}{3}$, find the length of RS .
 Diberi $\cos \angle SRT = \frac{1}{3}$, cari panjang bagi RS .

[3 marks]
[3 markah]

Answer:

(a)

(b)

19

2

[Lihat sebelah
SULIT

For
Examiner's
Use

- 20** Use the graph paper on page 14 to answer this question.
Guna kertas graf dihalaman 14 untuk menjawab soalan ini.

Table 20 shows the values of two variables, x and y of a function.
Jadual 20 menunjukkan nilai-nilai dua pemboleh ubah, x dan y , bagi suatu fungsi.

| | | | | | | |
|-----|----|----|----|---|---|---|
| x | -3 | -2 | -1 | 0 | 1 | 2 |
| y | -7 | 0 | 5 | 8 | 9 | 8 |

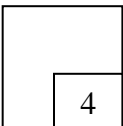
Table 20

The x -axis and the y -axis are provided on the graph paper on page 14.
Paksi- x dan paksi- y telah disediakan pada kertas graf di halaman 14

- (a) By using a scale of 2 cm to 2 units, complete and label the y -axis.
Dengan menggunakan skala 2 cm kepada 2 unit, lengkap dan labelkan paksi- y .
- (b) Based on Table 20, plot the points on the graph paper.
Berdasarkan jadual 20, plot semua titik pada kertas graf itu.
- (c) Hence, draw the graph of the function.
Seterusnya, lukis graf fungsi itu.

[4 marks]
[4 markah]

20



END OF QUESTION PAPER
KERTAS SOALAN TAMAT

Titik Sebelah