SEKTOR SEKOLAH BERASRAMA PENUH
KEMENTERIAN PELAJARAN MALAYSIA

PEPERIKSAAN PERCUBAAN PMR
SELARAS SEKOLAH BERASRAMA PENUH
PERTENGAHAN TAHUN PEPERIKSAAN 2006 YANG DIUBAHSUAI
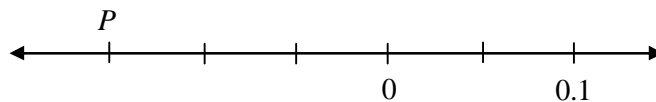
MATEMATIK

1   Diagram 1 is a number line.

DIAGRAM 1

What is the value of *P*?

A -1.5 **B** -0.3 **C** -0.15 **D** -0.13

2   How many perfect squares are there between 37 and 100?

A   3   **B** 4   **C** 5   **D** 6

3   Find the difference between the Lowest Common Multiple (LCM) and Highest Common Factor (HCF) of 12, 16 and 24.

A   42   **B** 44   **C** 90   **D** 92

4   The following numbers have the same prime factors **except**

A   18   **B** 24   **C** 42   **D** 48

5   In diagram 2, the number line represents a certain operation.
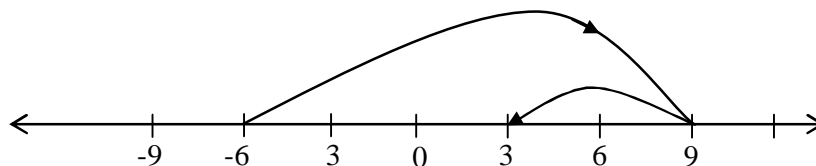

DIAGRAM 2

Which of the following is the correction operation?

A $(-6)+5-2$ **B** $9-6-15$ **C** $(-6)+9-3$ **D** $(-6)+15-6$

7 Puan Munah bought 750 g of cauliflower at RM7.80 per kg, 2.3 kg of meat at RM15 per kg and 3.5 kg of prawns. If her total bill was RM89.00, find the price for 1 kg of prawns.

A RM 13.90   **B** RM 18.90   **C** RM 19.47   **D** RM 48.65

8 Miss Shiela gets 5% commission for the first RM10 000 of the amount of her sales and 10% for the amount of sales exceeding RM10 000. If her total sales is RM25 000, find the total amount of commission she gets.

A RM2000   **B** RM2750   **C** RM3000   **D** RM3750

9 My mother bought 10.5 m of cloth to make curtains. She used 40% of the cloth to make a curtain for the bedroom. Then she sewed a curtain for the living room and she still had 1.5 m left. What is the length, in m, of the cloth did she use to make the curtain for the living room?

A 1.5   **B** 4.2   **C** 4.8   **D** 5.7

11 In Diagram 4, *RST* is an equilateral triangle and *QTS* is an isosceles triangle.
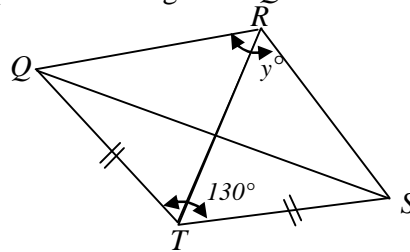
DIAGRAM 4

Find the value of *y*.

A 115   **B** 130   **C** 135   **D** 145

12 In Diagram 5, *KLM* is a right-angled triangle and *PL = PN*.
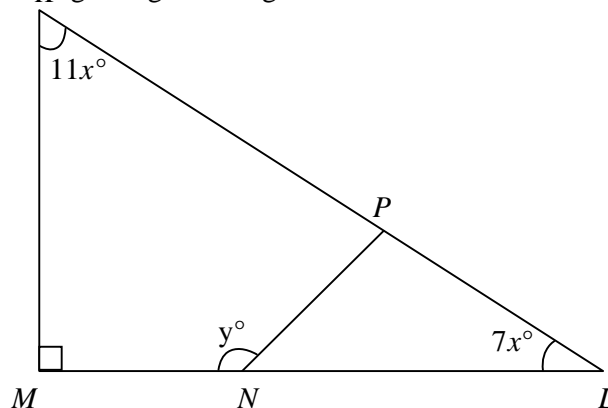
DIAGRAM 5

Find the value of *y*.

A 110   **B** 125   **C** 135   **D** 145

13 In Diagram 6, *QRS* is a straight line and *PQR* is a right-angled triangle.
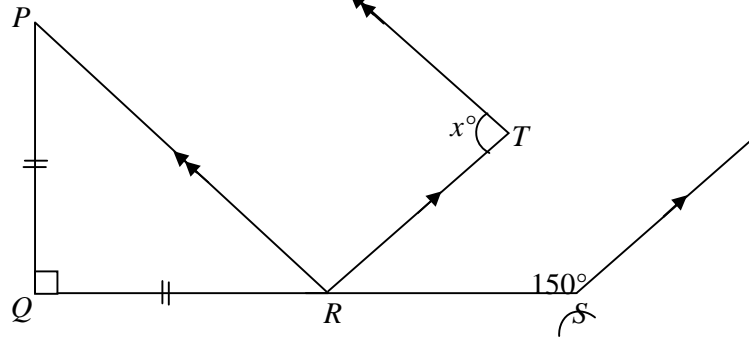
DIAGRAM 6

Find the value of *x*.

A 35   **B** 40   **C** 45   **D** 75

14 In Diagram 7, *PQRST* is a regular pentagon and *RUV* is a straight line.
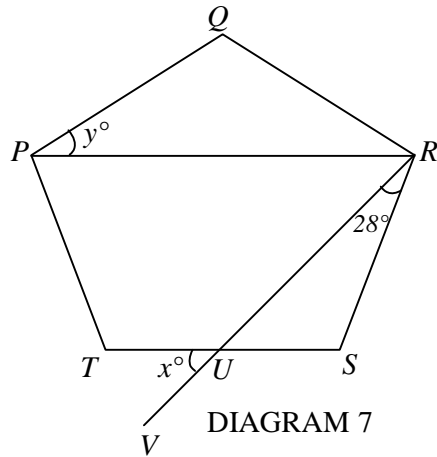
DIAGRAM 7

Find the value of *x* + *y*.

A 64   **B** 80   **C** 82   **D** 98

15 Diagram 8 shows a combination of an isosceles triangle *JKN* and a trapezium *KLMN*. *JKL* is a straight line. If the area of the triangle *JKN* is 60 cm^2, find, in cm, the perimeter of the shaded region.
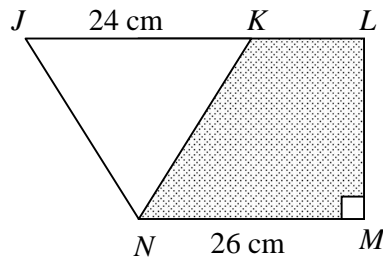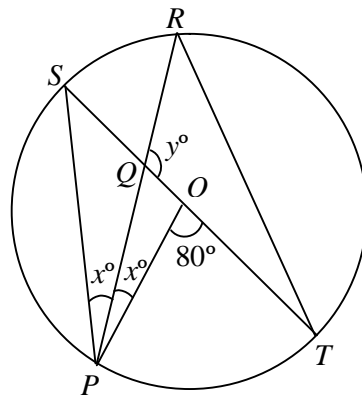

DIAGRAM 8

A 58   **B** 65   **C** 74   **D** 95

16 Diagram 9 shows a circle with centre *O*. *PQR* and *SOT* are straight lines.

Find the value of *y*.   DIAGRAM 9

A   100   **B** 120   **C** 140   **D** 150
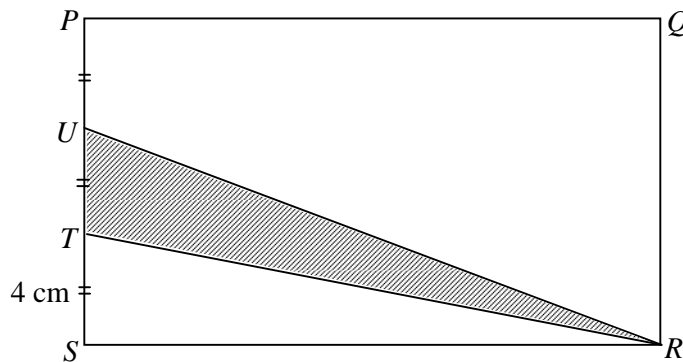
17 In Diagram 10, *PQRS* is a rectangle. Given that *UR* = 17 cm.

DIAGRAM 10

Calculate, the area, in cm^2, of the shaded region.

A   30   **B** 40   **C** 45   **D** 60

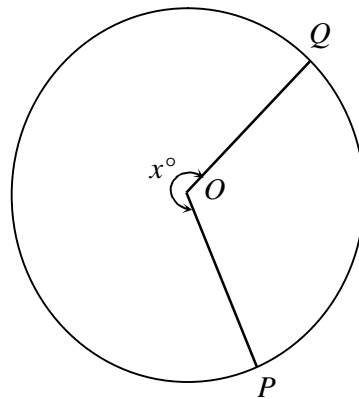**18** Diagram 11 shows a circle with centre *O* and radius 21 cm. Given that the length of minor arc *PQ* is 44 cm.

DIAGRAM 11

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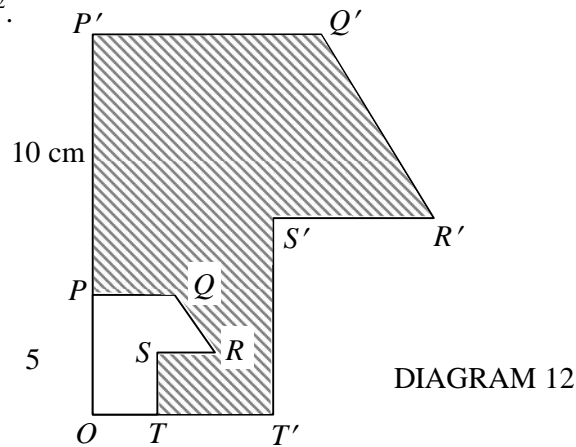Find the value of x. (Using $\pi = \dfrac{22}{7}$)

A 200 **B** 210 **C** 240 **D** 260

19 In Diagram 12, $OP'Q'R'S'T'$ is the image of $OPQRST$ under a certain enlargement. Given that the area of the object is 12 cm^2.

DIAGRAM 12

Find the area of the shaded region.

A 24 **B** 36 **C** 96 **D** 108

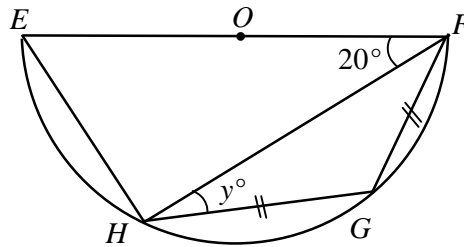**20** Diagram 13 shows a semicircle $EFGH$ with centre O. Given that $FG = GH$.

DIAGRAM 13

The value of y is

A 20 **B** 25 **C** 35 **D** 70

21 In Diagram 14, UOT is the diameter of the circle with centre O. Given that the radius of the circle is 5 cm.
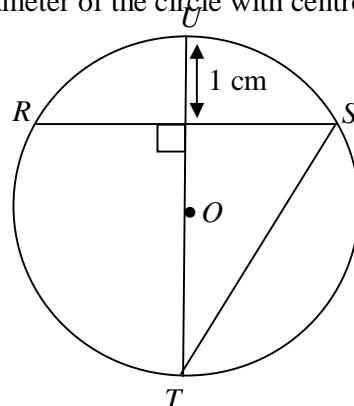

DIAGRAM 14

6

Find the length, in cm, of *ST*.

A $\sqrt{80}$ **B** $\sqrt{90}$ **C** $\sqrt{97}$ **D** 10

22 In Diagram 15, *PQR* and *KLM* are equilateral triangles. *K* and *R* are the midpoints of *PQ* and *LM* respectively.
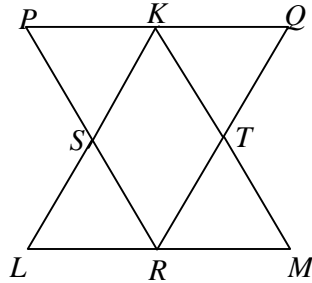

DIAGRAM 15

If *P* is reflected in the line *KL*, which of the following points is the image of *P*?

A L **B** M **C** S **D** T

23 In Diagram 16, *OJKL* is a sector of the circle with centre *O*. *OJL* is a right-angled triangle with area 32 cm².
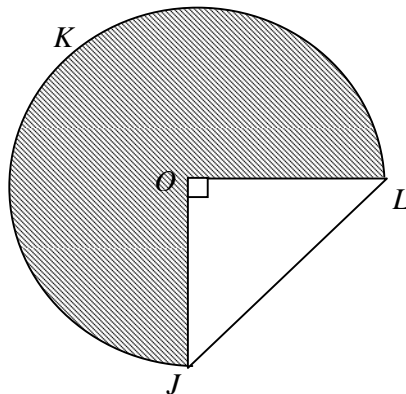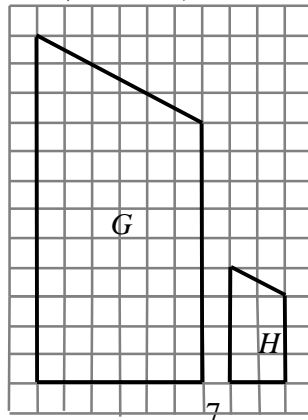

DIAGRAM 16

Calculate the area, in cm², of the shaded region.

A 36π **B** 48π **C** 64π **D** 66π

24 Diagram 17 shows two quadrilaterals, *G* and *H,* drawn on a grid of equal squares.

7

DIAGRAM

If *G* is the scale drawing for *H*, what is the scale used?

A $1:3$ **B** $1:2$ **C** $1:\dfrac{1}{2}$ **D** $1:\dfrac{1}{3}$

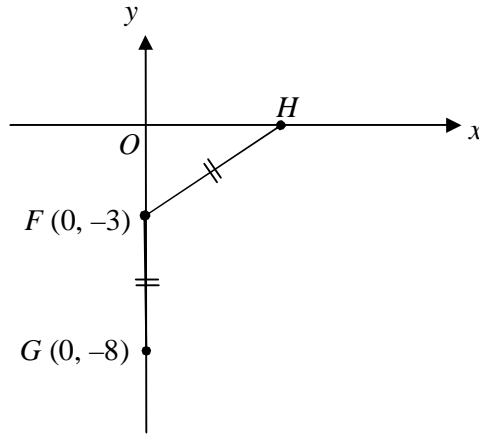25 Diagram 18 shows a Cartesian plane with origin *O* and *FH = FG*.

DIAGRAM 18

Find the coordinates of point *H*.

A $(3,0)$ **B** $(4,0)$ **C** $(5,0)$ **D** $(7,0)$

26 Table 1 shows the weight of old newspapers donated by some families in a recycle campaign.

Weight (kg)	1	4	5	7	9
Number of families	3	5	7	11	4

TABLE 1

Calculate the mean weight of the newspapers donated by a family.

A 5.2   **B** 5.7   **C** 6.0   **D** 6.6
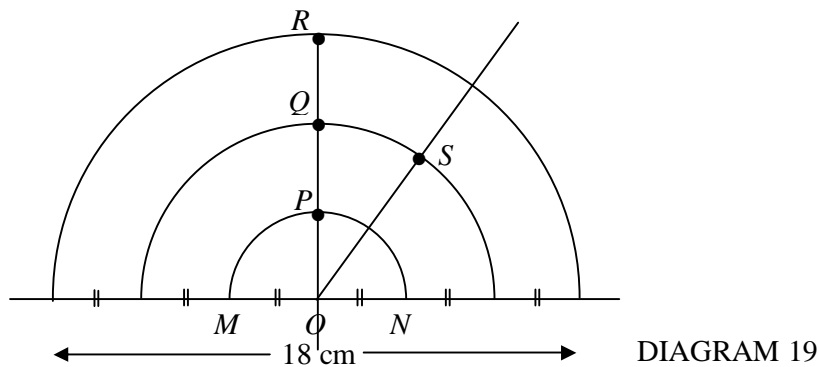
27 Diagram 19 shows three semicircles with centre *O*.

DIAGRAM 19

8

Which one of the following points is 6 cm from point O and equidistant from M and N ?

A P **B** Q **C** R **D** S

28   Given that $K(-6,3)$, $L(2,1)$ and $P(-2,7)$. Find the distance between midpoint of the straight line KL and point P.

A   2 units   **B** 3 units   **C** 4 units   **D** 5 units
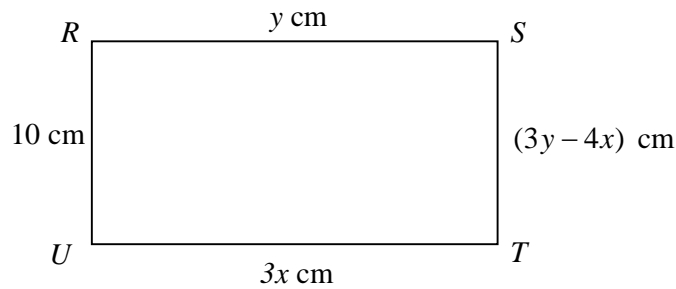
29   In Diagram 20, $RSTU$ is a rectangle.

R y cm   S

10 cm $(3y-4x)$ cm

U $3x$ cm   T

DIAGRAM 20

Find the value of y.

A   2   **B** 5   **C** 6   **D** 15

30   Simplify $\dfrac{(2r)^2 + 4r}{r^2 - 1}$

A $\dfrac{4}{r-1}$ **B** $\dfrac{4r}{r-1}$ **C** $\dfrac{4r+1}{r-1}$ **D** $\dfrac{4r+1}{r+1}$

31   In Diagram 21, the perimeter of the triangle ABC is 280 cm. The ratio of $AB:BC:CA$ is $2:5:7$.
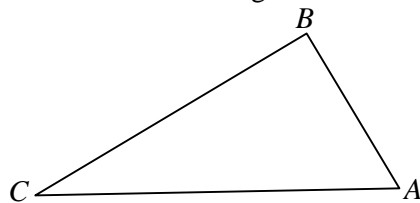
DIAGRAM 21

What is the difference, in cm, between the shortest and the longest sides?

A   20   **B** 40   **C** 100   **D** 140

32   Table 2 shows the Mathematics grades obtained by a class of students.

Grade	A	B	C	D	E
Number of students	7	6	9	12	6

TABLE 2

What is the percentage of students who obtained grades better than the mode?

A 15 **B** 45 **C** 55 **D** 85

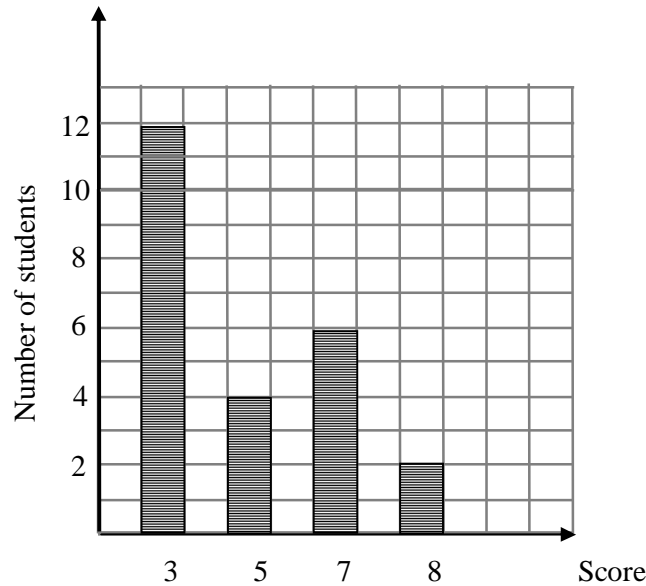**34** The bar chart in Diagram 22 below shows the scores obtained by a group of students in a Mathematics quiz.

DIAGRAM 22

Find the median score of the above data.

A 3 **B** 4 **C** 5 **D** 6

35 Table 4 shows the rental rates for a boat.

For the first hour	RM 5.00
Every 30 minutes thereafter	RM 2.00

TABLE 4

If Awang rents a boat at 11.40 a.m and returns it at 3.20 p.m on the same day, how much rental does he have to pay?

A RM 11.00 **B** RM 15.00 **C** RM 17.00 **D** RM 22.00

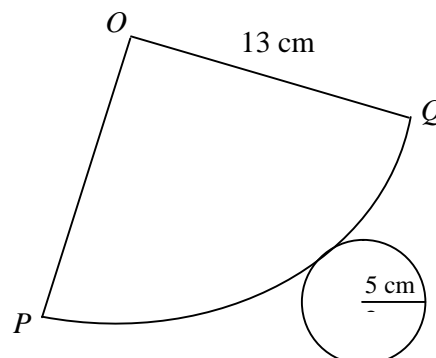**36** Diagram 23 shows the net of a right cone.

13 cm

5 cm

DIAGRAM 23

10

Calculate the volume, in cm^3, of the cone.

A 100π **B** 150π **C** 180π **D** 210π

37 Fatimah left town P to town Q on Monday at 0800. She took 5 hours to reach town Q. After working for 10 hours, she took a rest for $8\frac{1}{2}$ hours. Her return journey to P took her 4 hours. State the day and time (in 24-hour system) she arrived at town P.

A Tuesday 1130 hours **C** Wednesday 1130 hours
B Tuesday 2330 hours **D** Wednesday 2330 hours

38 The pie chart in Diagram 24 below shows Encik Nordin's expenditure each month. Given that Encik Nordin earns RM4320 per month and the amount saved is RM720. Calculate the amount spent on transportation.
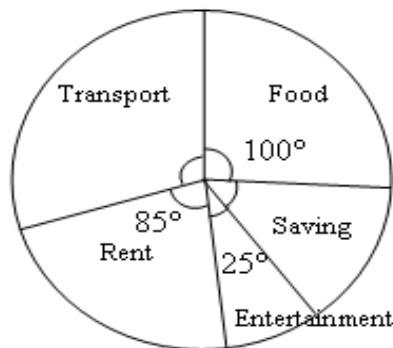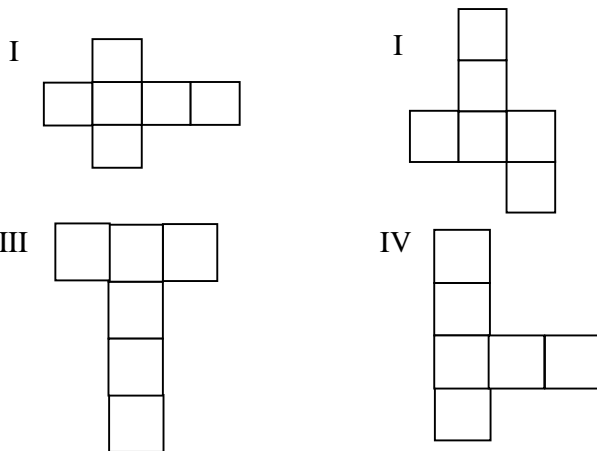

DIAGRAM 24

A 1080 **B** 1320 **C** 1500 **D** 1800

39 Which of the following is the net for a cube?

A I and II **B** I and III **C** II and IV **D** I, II and III

END OF QUESTION PAPER

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