1) The Diagram 1, *PTR* and *QTS* are straight lines.
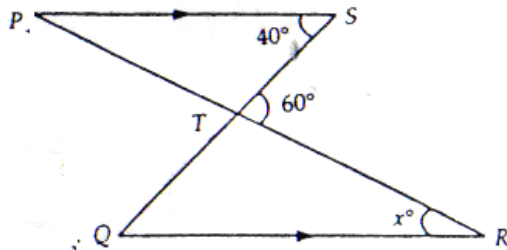

Diagram 1

The value of x is

A 20   C 80
B 30   D 100
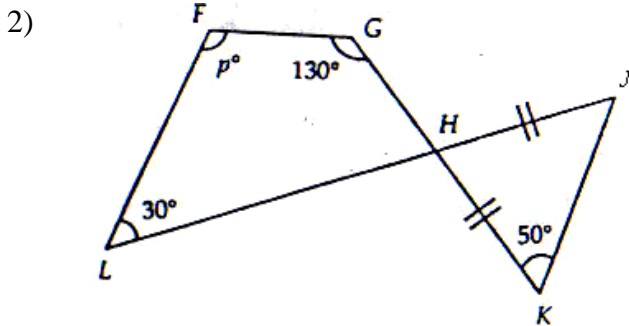
2)

Diagram 2

In Diagram 2, *GHK* and *LHJ* are straight lines. The value of p is
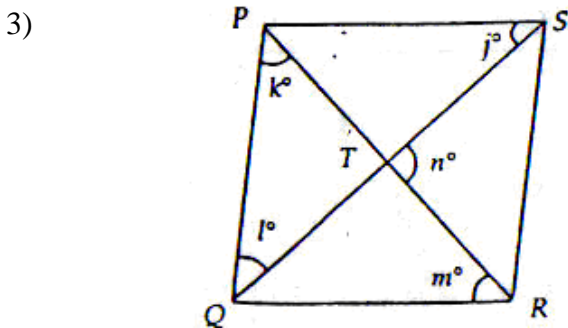
A 80   C 120
B 100   D150

3)

Diagram 9

In Diagram 9, *PQRS* is a rhombus. ***PTR*** and *STQ* are straight lines. $j + k + l + m + n =$

A 180   C 360
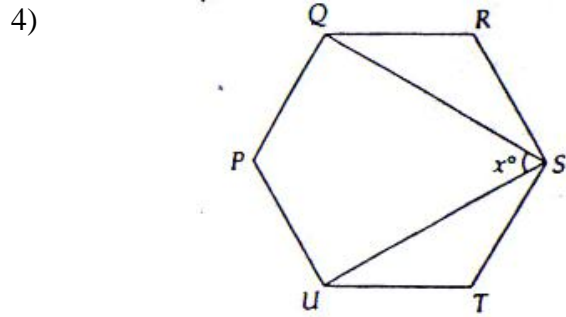B 270   D 450

4)

Diagram 11

Diagram 11 is regular hexagon. The value of x is

A 30   C 90
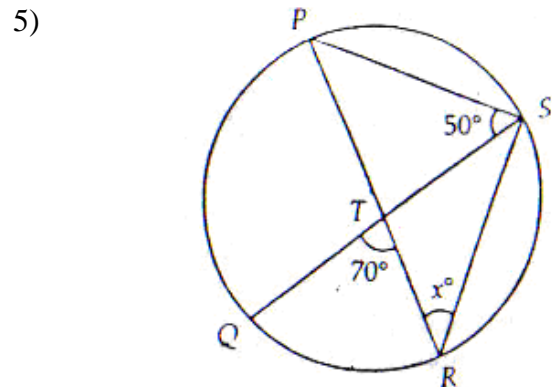B 60   D 120

5)

Diagram 4

In Diagram 4, *PTR* is the diameter of the circle and *STQ* is a straight line. The value of x is

A 55   C 35
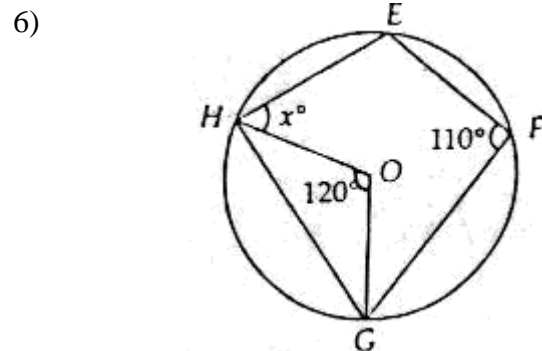B 40   D 30

6)

Diagram 7

In the Diagram 7, *O* is the centre of circle *EFGH*. Find the value of x.
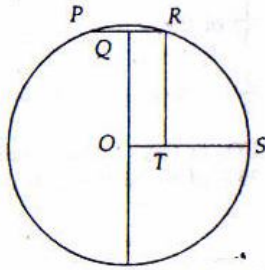
A 70   C 40
B 60   D 30

7)

Diagram 17

In the diagram 17, shows a circle *PRS* with centre *O*. *OQRT* is a rectangle and *OTS* is a straight line. *OQ* = 12cm long and perpendicular to the chord *PQR*. Given the *PR*= 10cm, find the length of *TS*, in *cm*.
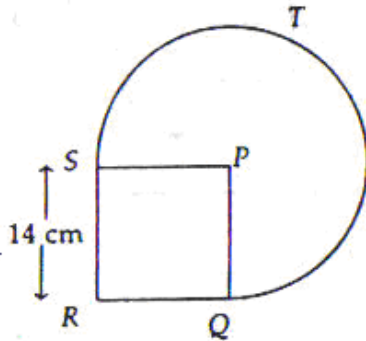
A 8   C 3
B 7   D 2

8)

Diagram 21

In the diagram 21, PQRS is a square and *STQ* is an arc of a circle with centre *P*. The perimeter of the whole diagram in cm is

(take $\pi = \dfrac{22}{7}$)

A 61   C 116
B 94   D 122

9) The median for 4,5,8,4,9 is

A 4   C 6
B 5   D 8

10)

July	♀♀♀
August	♀♀
September	♀♀♀♀
October	♀♀♀
November	♀♀♀♀♀♀♀
December	♀♀♀♀♀

♀ represents 5 students

Diagram 8

The pictogram in diagram 8 shows the number of students whose birthday are in the six months as above. The number of students whose birthdays fall in the months after October is

A 12   C 60
B 15   D 75

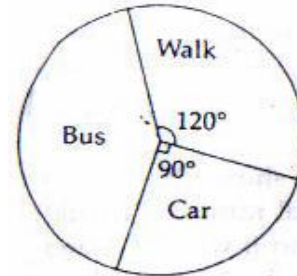11) The pie chart in Diagram 12 shows the ways used by a group of students to come school.

Diagram 12

Which of the following statement about the pie chart is true?

A $\dfrac{1}{3}$ of the students walk to school.

B $\dfrac{1}{9}$ of the students come to school by cars.

C 15 % of the students take buses.
D 30% of the students walk to school.

12) Factorise 6*pq* + 10*qr*

A 6*p* + 10*r*   B 3*pq* + 5*qr*
C 2*q* (3*p*+ 5*r*)   D 2*pq*(3+5*r*)

13) In order to complete the equation
$(x+2y)(2x+5y)= 2x^2 +[\quad] - 10 y^2$,
[   ] must be filled with

A − *xy*   C *xy*
B − 9*xy*   D 9*xy*

14) Given that *p* = -3, and *r* = -1.Then
$\dfrac{p^2}{r}(6-p)=$

A -81   C 18
B -27   D 54

2

15) The table 1 shows the number of balls in a box.

Colour	Number of Balls
Red	x
Blue	$\dfrac{1}{2}x$
White	$x - 4$

Table 1

If the total number of balls in the box is y, the equation involving x and y is

A $y = 5x - 2$ C $y = \dfrac{1}{2}x - 4$

B $y = 5x - 8$ D $y = \dfrac{5}{2}x - 4$

16) $\dfrac{2}{3x} - \dfrac{x-1}{6x} =$

A $\dfrac{1-x}{2x}$ C $\dfrac{5-x}{6x}$

B $\dfrac{-x-1}{3x}$ D $\dfrac{11-3x}{18x}$