SA-I (CLASS-VII)   9/2014
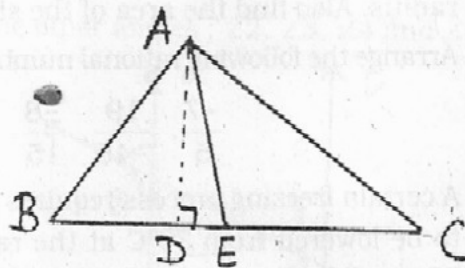
SUBJECT : MATHEMATICS

Time : 3 hrs   MM : 80

General Instructions :

i)   All questions are compulsory.

ii)   Read all questions very carefully.

iii)   Questions 1 to 10 carry 1 mark each.

iv)   Questions 11 to 18 carry 2 marks each.

v)   Questions 19 to 28 carry 3 marks each.

vi)   Questions 29 to 34 carry 4 marks each.

Q1. Write the place value of 5 in the following decimal numbers:

(a)   10.25   (b)   35.2

Q2. Find $(-5) \times (-4) \times (-6) \times (-10)$.
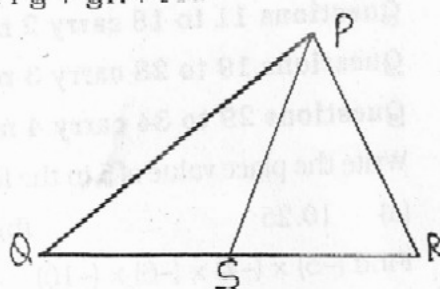
Q3. Name the altitude in the given figure.

Q4. The area of a rectangular sheet is 510cm². If the length is 102cm, find its breadth.

Q5. Simplify : $\dfrac{8}{11} \times \dfrac{(-55)}{24}$.

Q6. Find the angle which is equal to its complement.

Q7. Write a pair of negative integers whose difference is 5.

Q8. Is it possible to draw a triangle with the following sides : 2cm, 2cm, 4cm?

Q9. Calculate the product of $\dfrac{3}{7}$ and its reciprocal.

(1)

Q10. Write two rational numbers equivalent to $\frac{-7}{9}$.

Q11. A book has 2150 pages. Keya read $\frac{2}{5}$ of the book. How many pages of the book did she read?

Q12. PS is a median of a $\triangle PQR$ as shown in the given figure. Is $2\,PS < PQ + QR + PR$?
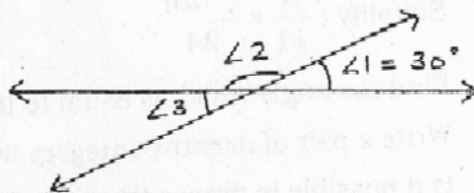

Q13. If the circumference of a circular sheet is 88cm, find its radius. Also find the area of the sheet.

Q14. Arrange the following rational numbers in ascending order:

$$\frac{-7}{5}, \quad \frac{19}{-45}, \quad \frac{-8}{15}$$

Q15. A certain freezing process requires the room temperature to be lowered from 30°C at the rate of 5°C every hour. What will be the room temperature 8 hours after the process begins?

Q16. In the given figure, if $\angle 1 = 30°$, find $\angle 2$ and $\angle 3$.

Q17. Represent $\frac{-2}{3}$ and $\frac{2}{3}$ on the number line.

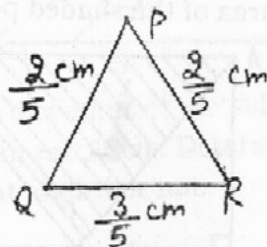Q18. Find the cost of polishing a square table top of side 4m, if the rate of polishing is ₹30 per m².

(2)

Q19. The length of a rectangular picture frame is 8cm and its diagonal is 10cm. Find its perimeter.

Q20. (a) Solve : $13 \div [(-2) + 1]$.

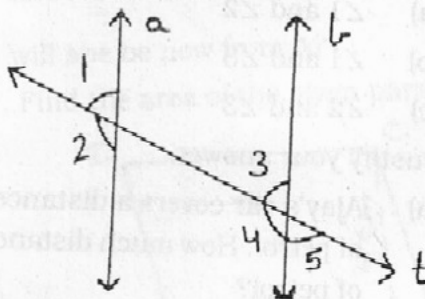(b) Use the sign of >, < or = in the box to make the statement true.

$$20 - 49 + (-13) \quad \boxed{} \quad 20 - 45 - 17$$

Q21. (a) Find the perimeter of the given triangle.

(b) Express 14cm in metre and kilometre.

Q22. In given figure, $a \parallel b$ and t is the transversal. If $\angle 1 = 50°$, find the other angles : $\angle 2$, $\angle 3$, $\angle 4$ and $\angle 5$.

Q23. List 6 rational numbers between $\dfrac{-2}{3}$ and $\dfrac{-3}{5}$.

Q24. A shopkeeper earns a profit of ₹10 by selling one bag and incurs a loss of ₹4 per pencil box. In a particular month, he sold 45 bags and 25 pencil boxes. Find the profit or loss earned by the shopkeeper in that month.
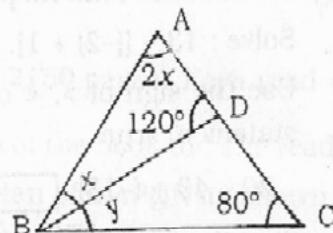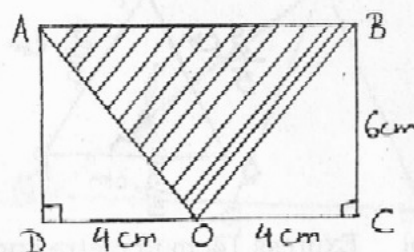
Q25. Solve :

(a) $3\dfrac{2}{3} + 2\dfrac{4}{5}$

(b) $\dfrac{2}{5} + \dfrac{5}{3}$

(c) $4.25 + 3.46 + 5.35$

(3)

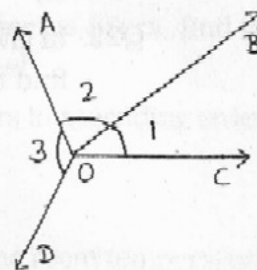Q26. In the given figure, find the value of x and y.

Q27. Find the area of the shaded portion in the given figure :

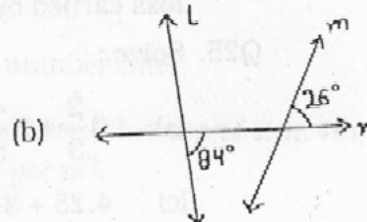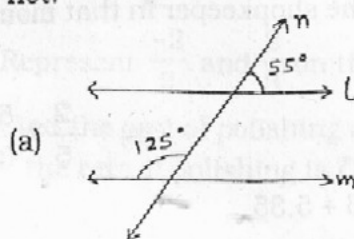Q28. In the given figure, which of the following pair of angles is adjacent?

(a) $\angle 1$ and $\angle 2$

(b) $\angle 1$ and $\angle 3$

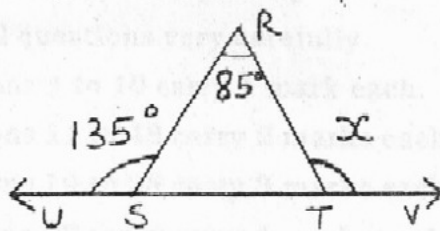(c) $\angle 2$ and $\angle 3$

Justify your answer.

Q29. (a)   Ajay's car covers a distance of 15.6km in one litre of petrol. How much distance will it cover in 5 litres of petrol?

(b)   Vijay's car covers 12.8km in 1kg of CNG. How much distance will it cover in 4kg of CNG?

(c)   Why CNG is preferred over petrol?

Q30. In the given figures, decide whether l is parallel to m or not.

(a)

(b)

(4)

Q31. A path of uniform width 5m runs round the inside of a rectangular park, 40m long and 30m wide. Find the area of the path.

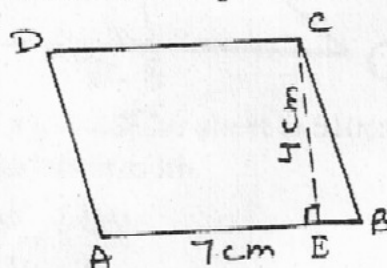Q32. (a) In the given figure, find the value of x.

(b) The measures of the sides of the triangle are 4cm, 12cm and 13cm. Determine whether the triangle is right angled or not.

Q33. (a) Riya walks $\frac{4}{5}$ km from a point A towards north and then from there $\frac{2}{3}$ km towards south. Where will she be now from A?

(b) Find the area of the given parallelogram.

Q34. In a class test, 3 marks are awarded for every correct answer, (−2) marks for every incorrect answer and no marks are given for not attempting a question.

(a) Upasana answered all the questions and scored 20 marks though she got 8 correct answers. How many incorrect answers had she attempted?

(b) Uday also answered all the questions and scored (−12) marks though he got 4 correct answers. How many incorrect answers had he attempted?