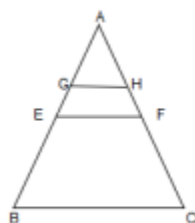
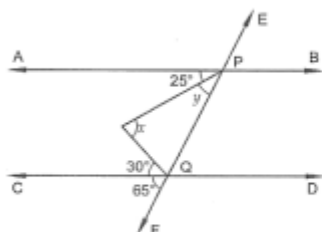


SATISH CHANDRA MEMORIAL SCHOOL
MATHEMATICS PRACTICE QUESTIONS

- Point $(0, -7)$ lies
 - in the fourth quadrant
 - on the y-axis
 - on the x-axis
 - in the second quadrant
- The sides of a triangle are 50 cm, 78 cm and 112 cm. The smallest altitude is
 - 20 cm
 - 40 cm
 - 30 cm
 - 50 cm
- E and F are the mid-points of sides AB and AC res. Of the $\triangle ABC$; G and H are the mid-points of the sides AE and AF res. Of the $\triangle AEF$. If $GH = 1.8\text{cm}$, Find BC



- 6 cm
 - 7.2 Cm
 - 7.5cm
 - 6.5 cm
- In Figure, AB and CD are parallel lines and transversal EF intersects them at P and Q respectively. If $\angle APR = 25^\circ$, $\angle RQC = 30^\circ$ and $\angle CQF = 65^\circ$, then

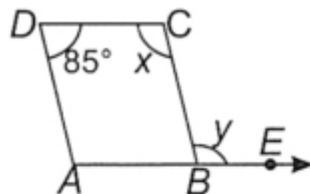


- $x = 50^\circ, y = 45^\circ$
 - $x = 60^\circ, y = 35^\circ$
 - $x = 35^\circ, y = 60^\circ$
 - $x = 55^\circ, y = 40^\circ$
- If $\frac{5-\sqrt{3}}{2+\sqrt{3}} = x + y\sqrt{3}$, then
 - $x = 13, y = 7$
 - $x = -13, y = -7$
 - $x = -13, y = 7$
 - $x = 13, y = -7$
 - $x = 2, y = 5$ is a solution of the linear equation
 - $x + y = 7$
 - $5x + y = 7$
 - $5x + 2y = 7$
 - $x + 2y = 7$
 - When $p(x) = x^4 + 2x^3 - 3x^2 + x - 1$ is divided by $(x - 2)$, the remainder is
 - 21
 - 1
 - 15
 - 0

8. The difference between two distinct irrational numbers is always

- a) a rational number
- b) both rational and irrational number
- c) an irrational number
- d) an integer

9. ABCD is a parallelogram in which $\angle ADC = 85^\circ$ and side AB is produced to point E as shown in the figure. Find the value of $(x + y)$.



- a) 85°
- b) 95°
- c) 190°
- d) 160°

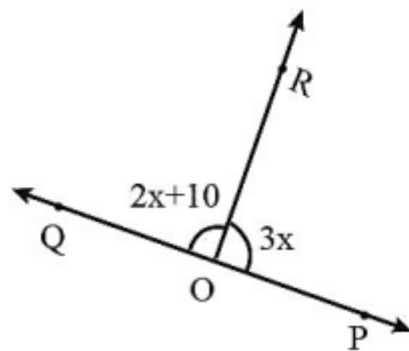
10. The simplest form of $0.12\bar{3}$ is

- a) none of these
- b) $\frac{41}{333}$
- c) $\frac{41}{330}$
- d) $\frac{37}{330}$

11. The graph of the line $y = -6$ passes through

- a) $(-1, 4)$
- b) $(0, 4)$
- c) $(4, -6)$
- d) $(-6, 4)$

12. Given $\angle POR = 3x$ and $\angle QOR = 2x + 10^\circ$. If $\angle POQ$ is a straight line, then the value of x is



- a) 36°
- b) 34°
- c) 30°
- d) 42°

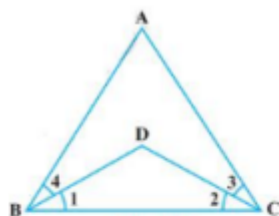
13. An irrational number between 2 and 2.5 is

- a) $\sqrt{22.5}$
- b) $\sqrt{12.5}$
- c) $\sqrt{5}$
- d) $\sqrt{11}$

14. The point whose abscissa is 4 and this point lies on the x-axis is:

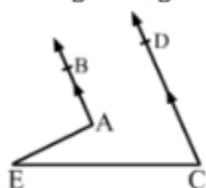
- a) $(0, 4)$
- b) $(4, 0)$
- c) $(4, 4)$
- d) $(2, 4)$

15. The positive solutions of the equation $ax + by + c = 0$ always lie in the
- 1st quadrant
 - 2nd quadrant
 - 3rd quadrant
 - 4th quadrant
16. If $x + y + z = 9$ and $xy + yz + zx = 23$, then the value of $x^3 + y^3 + z^3 - 3xyz$ is
- 108
 - 180
 - 209
 - 144
17. **Assertion (A):** If the diagonals of a parallelogram ABCD are equal, then $\angle ABC = 90^\circ$
Reason (R): If the diagonals of a parallelogram are equal, it becomes a rectangle.
- Both A and R are true and R is the correct explanation of A.
 - Both A and R are true but R is not the correct explanation of A.
 - A is true but R is false.
 - A is false but R is true.
18. **Assertion (A):** Rational number lying between two rational numbers a and b is $\frac{a+b}{2}$.
Reason (R): There is one rational number lying between any two rational numbers.
- Both A and R are true and R is the correct explanation of A.
 - Both A and R are true but R is not the correct explanation of A.
 - A is true but R is false.
 - A is false but R is true.
19. In the given figure, we have $\angle ABC = \angle ACB, \angle 4 = \angle 3$. Show that $\angle 1 = \angle 2$.



- Which of the following points lie on the x-axis?
- 20.
- A (0,8)
 - B (4,0)
 - C (0,-3)
 - D (-6,0)
 - E (2,1)
 - F (-2, -1)
 - G (-1, 0)
 - H (0, -2)
21. Express $0.9999 \dots$ as a fraction in simplest form.
- OR
22. Simplify: $\frac{2+\sqrt{3}}{2-\sqrt{3}} + \frac{2-\sqrt{3}}{2+\sqrt{3}} + \frac{\sqrt{3}-1}{\sqrt{3}+1}$.
- A military tent is in the form of a right circular cone 21 dm in height, the diameter of the base being 4 m. If 6 men sleep in it, find the average number of cubic decimetres of air surface per man.

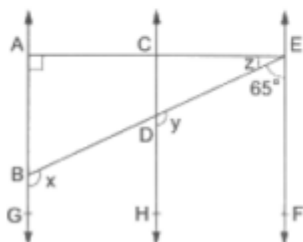
23. A cloth having an area of 165 m^2 is shaped into the form of a conical tent of radius 5 m. How many students can sit in the tent if a student, on an average, occupies $\frac{5}{7} \text{ m}^2$ on the ground?
24. Locate $\sqrt{3}$ on the number line.
25. P and Q are the mid-points of the opposite sides AB and CD of a parallelogram ABCD. AQ intersects DP at S and BQ intersects CP at R. Show that PRQS is a parallelogram.
26. Draw the graph of the following linear equation in two variables : $x - y = 2$
27. Find m and n if $x - 1$ and $x - 2$ exactly divide the polynomial $x^3 + mx^2 - nx + 10$
28. In the given figure, $AB \parallel CD$. Prove that $\angle BAE - \angle DCE = \angle AEC$.



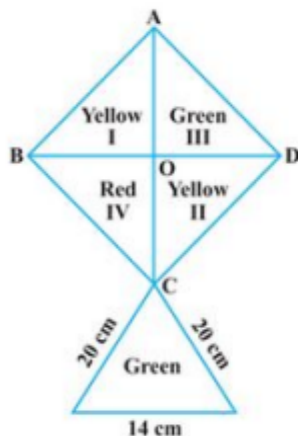
OR

In the given figure, $AB \parallel CD \parallel EF$, $\angle DBG = x$, $\angle EDH = y$, $\angle AEB = z$, $\angle EAB = 90^\circ$ and $\angle BEF = 65^\circ$.

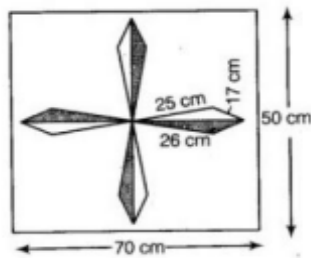
29. Find the values of x, y and z.



30. Shanti sweets stall was placing an order for making cardboard boxes for packing their sweets two sizes of boxes were required. The bigger of dimensions $25\text{cm} \times 20\text{cm} \times 5\text{cm}$ and the smaller of dimensions $15\text{cm} \times 12\text{cm} \times 5\text{cm}$ for all the overlaps, 5% of the total surface area is required extra. If the cost of cardboard is ₹ 4 for 1000 cm^2 . Find the cost of cardboard required for supplying 250 boxes of each kind.
31. How much paper of each shade is needed to make a kite given in Figure, in which ABCD is a square with diagonal 44 cm?



32. A design is made on a rectangular tile of dimensions $50\text{ cm} \times 70\text{ cm}$ as shown in Figure. The design shows 8 triangles, each of sides 26 cm, 17 cm and 25 cm. Find the total area of the design and the remaining area of the tile.



33. Reeta was studying in the class 9th C of St. Surya Public school, Mehrauli, New Delhi-110030. Once Ranjeet and his daughter Reeta were returning after attending teachers' parent meeting at Reeta's school. As the home of Ranjeet was close to the school so they were coming by walking. Reeta asked her father, "Daddy how old are you?" Ranjeet said, "Sum of ages of both of us is 55 years, After 10 years my age will be double of you."

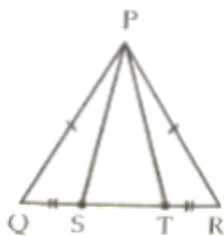


- What is the second equation formed? (1)
- What is the present age of Reeta in years? (1)
- What is the present age of Ranjeet in years? (2)

OR

If the ratio of age of Reeta and her mother is $3 : 7$ then what is the age of Reeta's mother in years? (2)

34. A children's park is in the shape of isosceles triangle said PQR with $PQ = PR$, S and T are points on QR such that $QT = RS$.



- Which rule is applied to prove that congruency of $\triangle PQS$ and $\triangle PRT$. (1)
- Name the type of $\triangle PST$. (1)
- If $PQ = 6\text{ cm}$ and $QR = 7\text{ cm}$, then find perimeter of $\triangle PQR$. (2)

OR

If $\angle QPR = 80^\circ$ find $\angle PQR$? (2)