1) Construct a \( \triangle ABC \) in which \( BC = 4.5 \text{ cm} \), \( \angle B = 45^\circ \) and \( AB + AC = 5.6 \text{ cm} \)
2) Construct a rhombus whose side is of length 3.4 cm and one of its angles is 45°
3) A triangle \( \triangle ABC \) can be constructed in which \( \angle B = 60^\circ \), \( \angle C = 45^\circ \) and \( AB + BC + AC = 12 \text{ cm} \). Is this statement true? Justify your answer.
4) Construct an equilateral triangle if its altitude is 4.5 cm
5) Construct a \( \triangle ABC \), given that perimeter = 10.5 cm, \( \angle A = 75^\circ \), \( \angle B = 60^\circ \)
6) Construct a triangle \( PQR \) in which \( QR = 6 \text{ cm} \), \( \angle Q = 60^\circ \) and \( PR - PQ = 2 \text{ cm} \)
7) Construct a triangle in which \( \angle A = 45^\circ \), \( \angle B = 120^\circ \) \( AB + BC + AC = 10.4 \text{ cm} \)

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**TOPIC: LINEAR EQUATIONS IN TWO VARIABLES**

1) Find four solutions of the linear equation \( 5x - 4y = -8 \)
2) Find two solutions of the linear equation \( 2(x + 3) - 3(y + 1) = 0 \)
3) Draw the graph of the linear equation \( 2x + 3y = 12 \). At what points the graph of the equation cuts the x axis and the y axis
4) Draw the graphs of the equations \( x + y = 6 \) and \( 2x + 3y = 16 \) on the same graph paper. Find the coordinates of the points where the two lines intersect
5) The auto rickshaw fare in a city is charged Rs 10 for the first km and Rs 4 per km for the Subsequent distance covered. Write the linear equation to express the above statement. Draw the graph of the linear equation
6) Check whether the graph of the linear equation \( 2x + 3y = 12 \) passes through the point (1, 3)
7) If (2, 5) is a solution of the equation \( 2x + 3y = m \), find the value of \( m \) \( (m = 19) \)
8) Frame a linear equation in the form \( ax + by + c = 0 \) by using the given values of \( a, b \) and \( c \)
   a) \( a = -2, b = 3, c = 4 \) \( b) a = 5, b = 0, c = -1 \)
9) Find the value of \( k \), if \( x = 2, y = 1 \) is a solution of the equation \( 2x + 3y = k \) \( (k = 7) \)
10) Give the geometric representation of (A) \( 3x + 9 = 0 \) as an equation in (a) one variable (B) \( 2x + 1 = x - 4 \) (b) Two variable
11) Solve the equation \( 2x + 1 = x - 3 \) and represent the solution on the number line
12) Give the equation of two lines passing through (2, 14). How many more such lines are there and Why
13) Solve for \( x \): a) \( \frac{(3x + 2)}{7} + \frac{4(x + 1)}{5} = \frac{2(2x + 1)}{3} \) \( (x = 4) \) b) \( 8y + 21 = 3y + 7 \) \( y = \frac{7}{20} \)
14) If present ages of son and father are expressed by \( x \) and \( y \) respectively and after ten years father will be twice as old as his son. Write the relation between \( x \) and \( y \)
15) Does point (1, 3) lie on the line \( 3y = 2x + 8 \)
16) If (2, 3) and (4, 0) lie on the graph of equation \( ax + by = 1 \). Find value of \( a \) and \( b \). Plot the graph and the equation obtained
17) Express the equation \( y = 2x + 3 \) in the standard form and find two solutions. Is (2, 3) it’s Solution?
18) Express \( y \) in terms of \( x \) from the equation \( 3x + 2y = 8 \) and check whether the points (4, -2) lies on the line.
19) Write each of the following as an equation in two variables (in standard form):
   (a) \( X = -5 \) \( (b) y = 2 \) \( (c) 2x = 3 \) \( (d) 5y = 2 \)

**PREPARED BY MAHABOOB PASHA IX – X BOYS**