Tender Heart High School, Sector 33B, Chd,

Class 10th. Mathematics. Date 22.7.24

Equation of a straight line

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Q1 Find the equation of a straight line parallel to x-axis and passing through the point $(3, -5)$

Q2 Find the equation of a straight line whose inclination is $45°$ and whose y-intercept is -3.

Q3 The equation of a straight line $3x - 3y - 7 = 0$
Find (i) the gradient of the line
(ii) the inclination of the line
(iii) the y-intercept of the line.

Q4 Find the equation of the line through $(1, 3)$ making an intercept of 5 on the y-axis.

Q5 Find the equation of a straight line with slope -2 and which intersects x-axis at a distance of 3 units to the left of origin.

Q6 The slope of a line joining $P(6, k)$ and $Q(1 - 3k, 3)$ is $\frac{1}{2}$. Find

(i) k (ii) mid-point of PQ using value of k

Q7 A straight line passes through the points $P(2, -5)$ and $Q(4, 3)$. Find

(i) the slope of line PQ
(ii) the equation of the line PQ
(iii) the value of p is PQ passes through the point $(p - 1, p + 4)$.

Q8 Find the equation of a line with x-intercept 5 and passing through the point $(4, -7)$

Q9 If $P(3,4)$, $Q(7,-2)$ and $R(-2,-1)$ are the vertices of a triangle PQR. Write down the equation of the median of the triangle through R.

Q10 A line passes through the point $P(3,2)$ and cuts off positive intercepts, on the x-axis and the y-axis in the ratio 3:4 Find the equation of the line.

Q11 Given that $(a, 2a)$ lies on the line $\frac{y}{2} = 3x - 6$, find the value of a.

Q12 Find the intercepts made by the line $2x - 3y + 12 = 0$ on the coordinate axes.

Q13 Find the equation of the line passing through the point $(1,4)$ and intersecting the line $x - 2y - 11 = 0$ on the y-axis.

Q14 Find the equation of the perpendicular dropped from the point $(-1,2)$ onto the line joining $(1,4)$ and $(2,3)$

Q15 If the line $y = mx + c$ passes through the points $(2,-4)$ and $(-3,1)$, determine the values of m and c.