Comprehensive Test Series-02

Straight lines

TIME: 1 hr. **MM: 30**

General Instructions:

- All Questions are compulsory.
- Marks are given alongwith the questions individually.
- Use of calculator is not permitted.

Q.1 The perpendicular from the origin to a line meets it at the point (-2, 9) find the equation of the line.

Q.2 Without using the Pythagoras theorem show that the points (1, 2), (4, 5) and (6, 3) are the vertices of a right angled triangle.

Q.3 Without using distance formula, show that the points (- 2,-1), (4, 0), (3, 3), (-3, 2) are the vertices of a parallelogram.

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Q.5 If three point (a, 0), (0, b) and (1, 1) lies on line, show that $\frac{1}{a}+\frac{1}{b}=1$

Q.6 If the angle between two lines is $\frac{\pi}{4}$ and slope of one of the lines is $\frac{1}{2}$ Find the slope of the other line.

Q.7 Find the equations of the lines passing through the point (3, 4) such that the sum of their intercepts on the axes is 14.

Q.8 Find the equation of a line that cut off equal intercepts on the coordinate axes and passes through the point (2, 3).

Q.9 P (a, b) is the mid-point of a line segment between axes. Show that the equation of the line is $\frac{x}{a}+\frac{y}{b}=2.$

Q.10 Point (h, k) divides a line segment between the axes in the ratio 1:2. Find equation of the line