Quadratic Eqn Class X

1) Solve $12abx^2 - (9a^2 - 8b^2)x - 6ab = 0$ $\left(x = -\frac{2b}{3a}, \frac{3a}{4b}\right)$.

2) find roots of $x^2 - (\sqrt{2}+1)x + \sqrt{2} = 0$. (Ans $\sqrt{2}, 1$)

3) If one root of $2x^2 - x + \frac{1}{8} = 0$ is $\frac{1}{4}$ find other? $\left(\frac{1}{4}\right)$ Ans

4) $2(x-3)^2 + 3(x-2)(2x-3) = 8(x+4)(x-4) - 1$. $x = 5$ Ans

5) Write an Eqn equivalent to $x^2 - 6x + 5 = 0$.

6) If a student walked 1 km/hr faster he would have taken 15 min less to walk 3 km. Find the rate at which he was walking. Ans $x = 4$ km/h don't take 3 km/h. check 3 or 4

7) roots $x^2 + x - p(p+1) = 0$. $(p, -(1+p))$ Ans

8) $Kx(3x-10) + 25 = 0$ has two equal roots.

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(12) roots $x^2 + 5x - (\alpha+1)(\alpha+6) = 0$. Ans $\alpha+1$, $-(\alpha+6)$

(13) roots $\sqrt{3}x^2 - 2\sqrt{2}x - 2\sqrt{3} = 0$. Ans $\sqrt{6}, -\frac{\sqrt{6}}{3}$.

9) Find root $x^2 - 3\sqrt{5}x + 10 = 0$.

10) roots $x^2 - 3x - m(m+3) = 0$.

11) A train travels 180 km at a uniform speed. If the speed had been 9 km/hour more, it would have taken 1 hour less for same journey. Find speed of train.