Solutions of Question On Linear Equations

1. $\frac{112x}{5} \geq \frac{9-3x}{8} + \frac{3}{4}$, $x \in N$

$\Rightarrow \frac{112x}{5} \geq \frac{9-3x+6}{8}$

$\frac{112x}{5} \geq \frac{15-3x}{8}$

$\Rightarrow 896x \geq 75 - 15x$

$\Rightarrow 911x \geq 75$

$\Rightarrow x \geq \frac{75}{911}$

$\therefore x = 1, 2, 3, 4, \ldots$ $(\because x \in N)$

2. $-\frac{1}{3} \leq \frac{3x-8}{6} < 1\frac{1}{6}$, $x \in R$

$\Rightarrow -\frac{1}{3} \leq \frac{3x-8}{6} < \frac{7}{6}$

$\Rightarrow -2 \leq 3x-8 < 7$ {Multiplying by 7}

$\Rightarrow -2+8 \leq 3x-8+8 < 7+8$

$\Rightarrow 6 \leq 3x < 15$

$\Rightarrow \frac{6}{3} \leq \frac{3x}{3} < \frac{15}{3}$ {dividing by 3}

$\Rightarrow \boxed{2 \leq x < 5}$