

Sample Question Set ~~11~~ 11

$$\text{Q1. } x - \frac{12}{x-1} = -3$$

$$\frac{x(x-1)}{x-1} - \frac{12}{x-1} = -3$$

$$\frac{x(x-1) - 12}{x-1} = -3$$

$$x-1 \cdot \frac{x^2 - x - 12}{x-1} = -3 \cdot (x-1)$$

$$x^2 - x - 12 = -3x + 3$$

$$x^2 - x - 12 + 3x - 3 = 0$$

$$x^2 + 2x - 15 = 0$$

$$(x-3)(x+5) = 0$$

$$x = 3 \text{ or } -5$$

#

Q2

$$\frac{x+1}{2x-1} = 3$$

$$\cancel{(2x-1)} \cdot \frac{x+1}{\cancel{(2x-1)}} = 3 \cdot (2x-1)$$

$$x+1 = 6x-3$$

$$1+3 = 6x-x$$

$$4 = 5x$$

$$x = \frac{4}{5} \#$$