

## Linear equations in one variable Ex 8.1 Q1 **Answer**:

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(i) x = 4 is the root of 3x - 5 = 7.
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Now, substituting x = 4 in place of 'x' in the given equation 3x - 5 = 7,

$$3(4) - 5 = 7$$

$$12 - 5 = 7$$

Hence, x = 4 is the root of 3x - 5 = 7.

## (ii) x = 3 is the root of 5 + 3x = 14.

Now, substituting x = 3 in place of 'x' in the given equation 5 + 3x = 14,

$$5 + 3(3) = 14$$

$$5 + 9 = 14$$

Hence, x = 3 is the root of 5 + 3x = 14.

## (iii) x = 2 is the root of 3x - 2 = 8x - 12.

Now, substituting x = 2 in place of 'x' in the given equation 3x - 2 = 8x - 12,

$$3(2) - 2 = 8(2) - 12$$

$$6 - 2 = 16 - 12$$

$$4 = 4$$

Hence, x = 2 is the root of 3x - 2 = 8x - 12.

## (iv) x = 4 is the root of $\frac{3x}{2} = 6$ .

Now, substituting x = 4 in place of 'x' in the given equation  $\frac{3x}{2} = 6$ ,

$$\frac{3\times4}{2}=6$$

$$\frac{12}{2} = 6$$

$$6 = 6$$

Hence, x = 4 is the root of  $\frac{3x}{2} = 6$ .

(v) 
$$y = 2$$
 is the root of  $y - 3 = 2y - 5$ .

Now, substituting y = 2 in place of 'y' in the given equation y - 3 = 2y - 5,

$$2-3=2(2)-5$$

$$-1 = 4 - 5$$

$$-1 = -1$$

Hence, y = 2 is the root of y - 3 = 2y - 5.

(vi) x=8 is the root of  $\frac{1}{2}x+7=11$ Now, substituting x=8 in place of 'x' in the given equation  $\frac{1}{2}x+7=11$ ,  $\frac{1}{2}\times 8+7=11$  4+7=11 11=11LHS = RHS Hence, x=8 is the root of  $\frac{1}{2}x+7=11$ 

\*\*\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*\*