Answers:

Question 1:

Ans:

Step#1: Let x = 0.1212…

Step#2: Multiply both side by 100,

$$100x = 12.1212…$$

Step#3: Subtract the original equation from this new equation,

$$100x – x = 12.1212… - 0.1212…$$

$$99x = 12$$

Step#4: Solve for x,

$$X = \frac{12}{99} = \frac{4}{33}$$

Answer is $\frac{4}{33}$

Question 2:

Ans:

Step#1: Let x = 0.2222…

Step#2: Multiply both side by 10,

$$10x = 2.222…$$

Step#3: Subtract the original equation from this new equation,

$$10x - x = 2.222... - 0.2222...$$

$$9x = 2$$

Step#4: Solve for x,

$$X = \frac{2}{9}$$

Answer is $\frac{2}{9}$

Question 3:

Ans:

Step#1: Let x = 0.090909...

Step#2: Multiply both side by 100,

$$100x = 9.0909...$$

Step#3: Subtract the original equation from this new equation,

$$100x - x = 9.0909... - 0.0909...$$

$$99x = 9$$

Step#4: Solve for x,

$$X = \frac{9}{99} = \frac{1}{11}$$

Answer is $\frac{1}{11}$

Ans:

Step#1: Let x = 0.142142…

Step#2: Multiply both side by 1000,

$$1000x = 142.142142…$$

Step#3: Subtract the original equation from this new equation,

$$1000x – x = 142.142142… - 0.142142…$$

$$999x = 142$$

Step#4: Solve for x,

$$X = \frac{142}{999}$$

Answer is $\frac{142}{999}$

Ans:

Step#1: Let x = 0.479479…

Step#2: Multiply both side by 1000,

$$1000x = 479.479479…$$

Step#3: Subtract the original equation from this new equation,

$$1000x – x = 479.479479… - 0.479479…$$

$$999x = 479$$

Step#4: Solve for x,

$$X = \frac{479}{999}$$

Answer is $\frac{479}{999}$

Question 6:

Ans:

Step#1: Let x = 2.333...

Step#2: Multiply both side by 10,

$$10x = 23.333...$$

Step#3: Subtract the original equation from this new equation,

$$10x - x = 23.333... - 2.333...$$

$$9x = 21$$

Step#4: Solve for x,

$$X = \frac{21}{9} = \frac{7}{3}$$

Answer is $\frac{7}{3}$

Question 7:

Ans:

Step#1: Let x = 0.10909...

Step#2: Multiply both side by 10 to shift the non-repeating part,

$$10x = 1.0909....$$

Step#3: Multiply both side by 100,

$$1000x = 109.0909...$$

Step#4: Subtract the original equation from this new equation,

$$1000x - 10x = 109.0909.... - 1.0909...$$

$$990x = 108$$

Step#5: Solve for x,

$$X = \frac{108}{990} = \frac{6}{55}$$

Answer is $\frac{6}{55}$

Ans:

Step#1: Let x = 0.5666…

Step#2: Multiply both side by 10 to shift the non-repeating part,

$$10x = 5.666….$$

Step#3: Multiply both side by 10,

$$100x = 56.666…$$

Step#4: Subtract the original equation from this new equation,

$$100x – 10x = 56.666…. – 5.666…$$

$$90x = 51$$

Step#5: Solve for x,

$$X = \frac{51}{90} = \frac{17}{30}$$

Answer is $\frac{17}{30}$

Question 9:

Ans:

Step#1: Let x = 2.2727…

Step#2: Multiply both side by 100,

$$100x = 227.2727…$$

Step#3: Subtract the original equation from this new equation,

$$100x – x = 227.2727… - 2.2727…$$

$$99x = 225$$

Step#4: Solve for x,

$$X = \frac{225}{99} = \frac{25}{11}$$

Answer is $\frac{25}{11}$

My Exam Revision

Ans:

Step#1: Let x = 0.555…

Step#2: Multiply both side by 10,

$$10x = 5.555…$$

Step#3: Subtract the original equation from this new equation,

$$10x – x = 5.555… - 0.555…$$

$$9x = 5$$

Step#4: Solve for x,

$$X = \frac{5}{9}$$

Answer is $\frac{5}{9}$