Answers and mark guide

Q	Answer	Working	Marks
1	**4/9**	Let x = 0.4444…; 10x − x = 4, so 9x = 4.	3
2	**2/9**	Let x = 0.2222…; 10x − x = 2, so 9x = 2.	3
3	**7/9**	Let x = 0.7777…; 10x − x = 7, so 9x = 7.	3
4	**8/9**	Let x = 0.8888…; 10x − x = 8, so 9x = 8.	3
5	**5/9**	Let x = 0.5555…; 10x − x = 5, so 9x = 5.	3
6	**3/11**	Let x = 0.2727…; 100x − x = 27, so 99x = 27.	4
7	**5/11**	Let x = 0.4545…; 100x − x = 45, so 99x = 45.	4
8	**4/11**	Let x = 0.3636…; 100x − x = 36, so 99x = 36.	4
9	**1/11**	Let x = 0.0909…; 100x − x = 9, so 99x = 9.	4
10	**1/11**	Let x = 0.0909…; 100x − x = 9, so 99x = 9.	4
11	**5/18**	Let x = 0.27…; 10x = 2.7…, 100x = 27.7…; subtract: 90x = 25.	5
12	**17/90**	Let x = 0.18…; 10x = 1.8…, 100x = 18.8…; subtract: 90x = 17.	5
13	**11/30**	Let x = 0.36…; 10x = 3.6…, 100x = 36.6…; subtract: 90x = 33.	5
14	**22/45**	Let x = 0.48…; 10x = 4.8…, 100x = 48.8…; subtract: 90x = 44.	5
15	**1/6**	Let x = 0.16…; 10x = 1.6…, 100x = 16.6…; subtract: 90x = 15.	5
16	**26/33**	1/3 + 5/11	6
17	**142/999**	Let x = 0.142142…; 1000x − x = 142; 999x = 142.	5
18	**13/18**	x = 0.72…; 100x − 10x = 72 − 7; 90x = 65; x = 13/18	5
19	**17/300**	1000x − 100x = 56 − 5; 900x = 51	6
20	**2/9**	2/3 × 1/3	6

My score: _____ / 88 Questions 1–15 = 60 marks (Foundation focus)