SOLVING FRACTIONAL EQUATIONS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1. $x/2 = 3$
2. $2x/3 = 4$
3. $5/x = 1$
4. $3/(x + 1) = 1$
5. $(2x - 1)/3 = 5$
6. $4/(x - 2) = 2$
7. $(3x + 4)/2 = 8$
8. $5/(2x) = 1/4$
9. $(x + 3)/4 = (x - 1)/2$
10. $2/(x + 1) = 3/(x + 2)$
11. $(5x - 2)/3 = (2x + 1)/4$
12. $3/(2x - 1) = 4/(3x + 2)$
13. $(x + 2)/5 + (x - 1)/3 = 2$
14. $2/x + 3/(x + 1) = 5$
15. $1/(x - 1) + 2/(x + 1) = 3/x$
16. $(3x - 1)/(x + 2) = (2x + 1)/(x - 1)$
17. $4/(x - 3) - 2/(x + 3) = 1$
18. $5/(2x - 1) - 3/(x + 2) = 0$
19. $(x + 1)/(x - 2) - (x - 1)/(x + 2) = 8/(x^2 - 4)$
20. $2/(x^2 - 1) + 3/(x + 1) = 4/(x - 1)$

MASTER QUESTIONS

M1. A fraction becomes 1/2 when 1 is subtracted from the numerator and 2 is added to the denominator. It becomes 1/3 when 7 is subtracted from the numerator and 2 is subtracted from the denominator. Find the original fraction.

M2. The sum of a number and its reciprocal is 10/3. Find the number.

M3. A car travels a certain distance at a speed of 60 km/h and returns at a speed of 40 km/h. The average speed for the whole journey is 48 km/h. Find the distance travelled one way.

M4. Two pipes can fill a tank in 6 hours and 8 hours respectively. A third pipe can empty the tank in 12 hours. How long will it take to fill the tank if all three pipes are opened together?

M5. A man spends one-third of his salary on rent, one-quarter on food, and one-fifth on other expenses. If he saves £2600, what is his total salary?