FRACTIONAL EQUATIONS

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

MAIN QUESTIONS

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

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 120 miles at a certain speed. If the speed were 5 mph faster, the trip would take 1 hour less. Find the original speed.

M4. Two pipes fill a tank in 6 hours. The larger pipe alone fills it in 10 hours less than the smaller pipe alone. How long does each pipe take to fill the tank alone?

M5. A cyclist travels 20 km at a certain speed. If he had gone 2 km/h faster, he would have taken 20 minutes less. Find the original speed.