Harder Solve Practice #1

Solve:

1. $x^2 = 5x - 6$
2. $\frac{2x+9}{5} = 4x$
3. $\frac{2}{x+1} = 8$
4. $x^2 = 15x - 50$
5. $\frac{3}{4}(x + 5) = 7$
6. $\frac{x^2}{2} = 4x + 24$
7. $x^2 = 13.2x$
8. $\frac{2}{x-5} = 5$
9. $5x^2 = 15x + 650$
10. $x^{-2} = 4$

These are significantly harder:

11. $\frac{1}{4x-2} = 5$
12. $\frac{x+2}{x+7} = 3$
13. $x^3 + 5x^2 + 6x = 0$
14. $x - \frac{3}{x-4} = 2$
15. $\frac{2}{1-x} = \frac{4}{3x-5}$
16. $\frac{x}{2} + \frac{3}{x} = 2.5$
17. $(\frac{x}{3} - 3)^2 = 9$
18. $\frac{2}{x-2} + \frac{6}{x+5} = 0$
19. $\frac{x+12}{x+5} = \frac{4}{x}$
20. $\frac{5}{x+1} + \frac{9}{x-3} = 2$

Answers: Harder Solve Practice #1

To remove a fraction you multiply **all** the equation by the denominator

1.	$x^2 = 5x - 6$	$x^2 - 5x + 6 = 0$	$(x - 3)(x - 2) = 0$	$x = 2$ or 3
2.	$\frac{2x + 9}{5} = 4x$	$\times 5 =$	$2x + 9 = 20x$	$x = 0.5$
3.	$\frac{2}{x + 1} = 8$	$\times (x + 1) =$	$2 = 8(x + 1)$	$x = {}^{-}0.75$
4.	$x^2 = 15x - 50$		$x^2 - 15x + 50 = 0$	$x = 5$ or 10
5.	$\frac{3}{4}(x + 5) = 7$	$\times \frac{4}{3} =$	$x + 5 = \frac{28}{3}$	$x = \frac{13}{3} = 4.33$
6.	$\frac{x^2}{2} = 4x + 24$	$\times 2 =$	$x^2 - 8x - 48 = 0$	$x = {}^{-}4$ or 12
7.	$x^2 = 13.2x$		$x(x - 13.2) = 0$	$x = 0$ or 13.2
8.	$\frac{2}{x - 5} = 5$	$\times (x - 5) =$	$2 = 5(x - 5)$	$x = 5.4$
9.	$5x^2 = 15x + 650$	$\div 5 =$	$x^2 - 3x - 130 = 0$	$x = 13$ or ${}^{-}10$
10.	$x^{-2} = 4$	$\times x^2 =$	$1 = 4x^2$	$x = \pm 0.5$

If there are two denominators to remove, you multiply all terms by both

11.	$\frac{1}{4x - 2} = 5$	$\times (4x - 2) =$	$1 = 5(4x - 2)$	$x = 0.55$
12.	$\frac{x + 2}{x + 7} = 3$	$\times (x + 7) =$	$x + 2 = 3(x + 7)$	$x = {}^{-}9.5$
13.	$x^3 + 5x^2 + 6x = 0$	$x(x^2 + 5x + 6) = 0$	$x(x + 2)(x + 3) = 0$	$x = 0$, ${}^{-}2$ or ${}^{-}3$
14.	$x - \frac{3}{x - 4} = 2$	$\times (x - 4) =$	$x(x - 4) - 3 = 2(x - 4)$	$x = 1$ or 5
15.	$\frac{2}{1 - x} = \frac{4}{3x - 5}$	$\times (3x - 5)(1 - x) =$	$2(3x - 5) = 4(1 - x)$	$x = 1.4$
16.	$\frac{x}{2} + \frac{3}{x} = 2.5$	$\times 2x =$	$x^2 + 6 = 5x$	$x = 2$ or 3
17.	$(\frac{x}{3} - 3)^2 = 9$	$\frac{x}{3} - 3 = \pm\sqrt{9}$	$x = 3(\pm\sqrt{9} + 3)$	$x = 0$ or 18
18.	$\frac{2}{x - 2} + \frac{6}{x + 5} = 0$	$\times (x + 5)(x - 2) =$	$2(x + 5) + 6(x - 2) = 0$	$x = 0.25$
19.	$\frac{x + 12}{x + 5} = \frac{4}{x}$	$\times x(x + 2) =$	$x(x + 12) = 4(x + 5)$	$x = 2$ or ${}^{-}10$
20.	$\frac{5}{x + 1} + \frac{9}{x - 3} = 2$	$\times (x + 4)(x - 1) =$	$4(x + 4) + 2(x - 1) = 1(x + 4)(x - 1)$	$x = 0$ or 9