6.6 EQUATIONS REVIEW (TYPES I - II - III- IV - RATIO)

A. Solve the following.

1. $3x + 6 = 8x - 9$
    $x = 3$

2. $\dfrac{7}{x} = \dfrac{3}{4}$ $x = 28/3$

3. $5x - 3 = 12$
    $x = 3$

4. $x + 9 = -3$
    $x = -12$

5. $\dfrac{x + 6}{3} = \dfrac{12 + x}{4}$ $x = 12$

6. $\frac{3}{4} x + 3 = \frac{1}{2} x + 7$
    $x = 16$

7. $4(x - 3) = 3(x + 5)$
    $x = 27$

8. $\dfrac{4(x + 6)}{5} = \dfrac{3(7x - 2)}{1}$ $x = 54/101$

9. $0.8(3x + 10) = 4(x - 4)$
    $x = +15$

10. $\dfrac{6x}{2} = \dfrac{4x}{5}$ $x = 0$

11. $\dfrac{x}{6} + 3 = 7$ $x = 24$

12. $4x + 6x = 10$
     $x = 1$

13. $-4x - 9 = -13$
     $x = 1$

14. $0.7x - 1 = 0.2x + 4$
     $x = 10$

15. $6x + 4x + 6 = 5x + 14$
     $x = 8/5$

16. $\dfrac{3x}{4} = \dfrac{9}{10}$ $x = 6/5$

17. $\dfrac{x - 3}{7} = \dfrac{x}{9}$ $x = 27/2$

18. $3x + 2x - 4x + 5x = 20$
     $x = 10/3$

19. $\frac{1}{2} x + \frac{1}{3} x = 5$
     $x = 6$

20. $0.2x + 0.3 = 1.4$
     $x = 11/2 = 5.5$

21. $\dfrac{5(x - 2)}{7(x + 1)} = \dfrac{3}{4}$ $x = -61$

22. $\dfrac{2}{1 - x} = \dfrac{3}{1 - 2x}$ $x = -1$

23. $\dfrac{2}{3x} = \dfrac{1}{16}$ $x = 32/3$

24. $2(3x - 10) = 5(x + 9)$
     $x = 65$

25. $\dfrac{x}{7} - 8 = 2$ $x = 70$

26. $8x + 3 = 7x - 10$
     $x = -13$

27. $\frac{3}{4} x - 5 = \frac{2}{3} x + 7$
     $x = 144$

28. $-7x + 8 = -20$
     $x = 4$

29. $\dfrac{3}{x} = \dfrac{-2}{5 - x}$
     $x = 15$

30. $-6(x + 2) = 6(x + 2)$
     $x = 0$

B. Solve the following.

1. $\dfrac{x}{0.3} = -0.8$ $x = -0.24$

2. $\dfrac{-3x}{4} = 12$ $x = -16$

3. $2.1(x + 5) = 7$
    $x = -1.6$

4. $\dfrac{0.7x}{3} = \dfrac{6x}{7}$ $x = 0$

5. $\dfrac{3x + 6}{2} = \dfrac{5}{4}$ $x = -\dfrac{7}{6}$

6. $3(2x + 10) = 2(2x - 10)$
    $x = -25$

7. $-9y - 9 = -9$
    $y = 0$

8. $\dfrac{6x}{3} = \dfrac{5x + 2}{-4}$ $x = -2$

9. $\dfrac{8(4x - 3)}{2} = \dfrac{2(8x + 1)}{6}$ $x = \dfrac{37}{40}$

10. $4x - 9 = 1.2$
     $x = 2.55$

11. $\dfrac{0.8x + 5}{0.6} = 7$ $x = 3/2$

12. $\frac{1}{2} x + \frac{1}{4} x + \frac{1}{3} x = \frac{13}{12}$
     $x = 1$

13. $7x - 6x + 8x = 24$
     $x = 24/9$

14. $8x - 3 = -8x - 3$
     $x = 0$

15. $\dfrac{-3x}{2} = \dfrac{7}{8}$ $x = -7/12$

16. $\dfrac{x}{7} - 9 = 2$ $x = +11/7$

17. $\frac{1}{3} x + \frac{1}{5} x = \frac{1}{8}$
     $x = 15/64$

18. $7x - 3 = 5x + 2$
     $x = 2.5$

19. $\dfrac{4x}{3} = \dfrac{3x - 5}{2}$ $x = 15$

20. $7(x - 3) = 2(5x - 8)$
     $x = -5/3$

21. $\frac{3}{4}(16x - 20) = \frac{2}{5}(10x + 25)$
     $x = 500/161$

22. $\frac{7}{6} x = \frac{2}{3} x + 3$
     $x = 6$

23. $5x + 2 = 7$
     $x = 1$

24. $\frac{3}{8} x + 2 = \frac{1}{8} x - 8$
     $x = -40$

25. $2(0.6x + 5) = 10.12$
     $x = 1/10$

26. $\frac{3}{4} x = 20$
     $x = 80/3$

27. $0.5x + 1.2 = 0.3x + 2.4$
     $x = 6$

28. $3x + 8 = -24$
     $x = -32/3$

29. $6x + 8x - 4x = 10$
     $x = 1$

30. $3(1.5x - 0.6) = 2(x - 0.5)$
     $x = 0.32$