



Tutoring Sheet #2

Unit 05a : Mathematics 1

1. Solve each of the following equations/inequalities:

1. $9(3x-4) - 2x = 11 + 5(4x - 1)$

2. $\frac{x}{3} - 16 = \frac{x}{12} + 14$

3. $\frac{5}{x} + \frac{3}{x+4} = \frac{7}{x}$

4. $|2x - 3| = 7$

5. $|x| + |x+3| = -5$

6. $|5x+2| - 3 < 4$

7. $|3x - 5| + 2 > 10$

8. $|x^2 - 1| = 8$

9. $(x+1)^2 = 7$

10. $2x^2 - 3x = 0$

11. $4x^2 - 12x + 9 = 0$

12. $5x^2 + 2x + 1 = 0$

13. $-3x^2 + 5x + 2 = 0$

14. $-x^4 + 6x^2 - 5 = 0$

15. $2x^4 = 7x^2 + 15$

16. $\sqrt{x-2} = 3 - 5x$

17. $x^2 - 2 = \sqrt{-x+6}$

18. $x^3 - 1 = 0$

19. $x^3 - 3x + 2 = 0$

20. $x + \frac{1}{x} = -2$

2. Solve each of the following simultaneous equations:

(1.) $-13x + 6y + 132 = 0$

$x + 3y - 69 = 0$

(2.) $q = \frac{2}{3}p - \frac{16}{3}$

$q = 20 - 2p$

(3.) $6x^2 - 12y = 0$
 $-12x + 2y = 0$

(4.) $p_y - p_x + 13 - 6x = 0$
 $p_x - 4p_y + 26 - 6y = 0$

In part (4) solve for p_x and p_y