Date :

3) $\frac{a^3 + 8b^3}{a + 2b} = a^2 - 2ab + 4b^2$

$= \frac{(a + 2b) \times (a^2 - 2ab + 4b^2)}{a + 2b}$

$= a^2 - 2ab + 4b^2$

✱ Persamaan Linear dan Polinomial

1) $7(x - 2) = 4(x - 5)$

$7x - 14 = 4x - 20$

$7x - 4x = -20 + 14$

$3x = -6$

$x = \frac{-6}{3} = \frac{-2}{=}$

2) $6x - 17 = -3x + 10$

$6x + 3x = 10 + 17$

$9x = 27$

$x = \frac{27}{9} = \frac{3}{=}$

3) $\frac{1}{4}(x - 10) = \frac{2}{3}x - 5$

$\frac{1}{4}x - \frac{5}{2} = \frac{2}{3}x - 5$

$\frac{1}{4}x - \frac{2}{3}x = -5 + \frac{5}{2}$

$\frac{3 - 8}{12}x = \frac{-10 + 5}{2}$

$\frac{-5}{12}x = \frac{-15}{2}$

$x = \frac{-15}{2} \times \frac{12}{-5} = \frac{-60}{-10} = \frac{6}{=}$

4) $x + 3y = 15$ dan $3x + 6y = 30$

$x = 3y - 15$

$3(3y - 15) + 6y = 30$

$9y - 45 + 6y = 30$

$15y - 45 = 30$

$15y = 30 + 45$

$y = \frac{75}{15} = \frac{5}{=}$

$x + 3(5) = 15$

$x + 15 = 15$

$x = 15 - 15$

$x = \frac{0}{=}$

5) $2x + 2y = 5 \mid \times 1$

$x + 3y = 4 \mid \times 2$

$2x + 2y = 5$

$2x + 6y = 8 \; -$

$-4y = -3$

$y = \frac{-3}{4}$

$x + 3y = 4$

$x + 3\left(-\frac{3}{4}\right) = 4$

$x - \frac{9}{4} = 4$

$x = 4 + \frac{9}{4} = \frac{16 + 9}{4} = \frac{27}{4}$

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6) $3x + y = 10$ dan $2x + 3y = 30$

$y = 10 - 3x$

$2x + 3(10 - 3x) = 30$

$2x + 30 - 9x = 30$

$-7x = 30 - 30$

$x = \frac{0}{-7} = 0$

$3(0) + y = 10$

$0 + y = 10$

$y = 10$

7) $x^2 - 6x - 27 = 0$

$(x - 9)(x + 3) = 0$

$x = 9$ dan $x = -3$

8) $x^2 + 4x - 12 = 0$

$a = 1$

$b = 4$

$c = -12$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x = \frac{-4 \pm \sqrt{4^2 - 4(1)(-12)}}{2(1)}$

$x = \frac{-4 \pm \sqrt{16 + 48}}{2}$

$x = \frac{-4 \pm \sqrt{64}}{2}$

$x = \frac{-4 \pm 8}{2}$ jadi, $x = 2$ dan $x = -6$

9) $x^2 - 6x + 9$

$x^2 - 6x + 9 - \left(\frac{6}{2}\right)^2 + \left(\frac{6}{2}\right)^2 = 0$

$(x - 3)^2 = 0$

$(x - 3)(x - 3) = 0$

Jadi, $x = 3$

10) $x^3 - 7x^2 + 10 = 0$

$x(x^2 - 7x + 10) = 0$

$x(x - 2)(x - 5) = 0$

jadi, $x = 0 \vee x = 2 \vee x = 5$

$x = \{0, 2, 5\}$

11) $x^3 - 7x^3 + 17x^2 - 17x + 6$

Jika $x = 1$, maka :

$(1)^3 - 7(1)^3 + 17(1)^2 - 17(1) + 6 = 0$

$0 = 0$

Jika $x = 2$, maka :

$16 - 56 + 68 - 34 + 6 = 0$

$0 = 0$

	1	-7	+17	-17	+6
1		1	-6	11	-6
	1	-6	11	-6	0
2		2	-8	+16	

$x^2 - 4x + 3 = 0$

$(x - 3)(x - 1) = 0$

$x = 3 \quad x = 1$

Akar - akar = $\{1, 2, 3\}$