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# Persamaan Linear

⊙ Bentuk  $x + a = b$

$$x + 1 = 3$$

$$x = ?$$

$$x = 2$$

$$x + 3 = 7$$

$$x = ?$$

$$x = 4$$

$$x + 7 = 10$$

$$x = ?$$

$$x = 3$$

$$x + 228 = 503$$

$$x = ?$$

$$x + 2 = 9$$

$$x + \cancel{2} - 2 = 9 - 2$$

$$x = 7$$

$$x + 5 = 11$$

$$x + \cancel{5} - 5 = 11 - 5$$

$$x = 6$$

$$x + 105 = 220$$

$$x + \cancel{105} - 105 = 220 - 105$$

$$x = 115$$

$$x + a = b$$

$$\rightarrow x + \cancel{a} - a = b - a$$

$$x = b - a$$

$$x + 8 = 12$$

$$x = 4$$

$$x + 9 = 25$$

$$x = 16$$

$$x + 6 = 17$$

$$x = ?$$

$$x + 9 = 36$$

$$x = ?$$

$$x + 12 = 27$$

$$x = ?$$

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②

⊖ Bentuk  $x - a = b$ 

$$x - 1 = 2$$

$$x = 3$$

$$x - 4 = 9$$

$$x = 13$$

$$x - 214 = 329$$

$$x = ?$$

$$x - 3 = 5$$

$$x - \cancel{3} + \cancel{3} = 5 + 3$$

$$x = 8$$

$$x - 5 = 9$$

$$x - 5 + 5 = 9 + 5$$

$$x = 14$$

$$x - 7 = 8$$

$$x = 15$$

$$x - 9 = 25$$

$$x = 34$$

$$x - 3 = 7$$

$$x = ?$$

$$x - 9 = 16$$

$$x = ?$$

$$x - 25 = 75$$

$$x = ?$$

$$x - 9 = 319$$

$$x = ?$$

$$x - a = b \quad ?$$

$$x = b + a$$

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• Bentuk  $-x + a = b$   
atau  $a - x = b$

$$-x = 2$$

$$x = -2$$

$$-(-2) = 2$$

$$-x = 7$$

$$x = -7$$

$$-x = -9$$

$$x = 9$$

$$-(9) = -9$$

$$-x + 1 = 3$$

$$-x + \cancel{1-1} = 3 - 1$$

$$-x = 2$$

$$x = -2$$

$$-x + 3 = 7$$

$$-x = 7 - 3$$

$$-x = 4$$

$$x = -4$$

$$-x + 4 = 7$$

$$x = ?$$

$$-x - 3 = 5$$

$$-x - \cancel{3+3} = 5 + 3$$

$$-x = 8$$

$$x = -8$$

$$-x - 2 = -9$$

$$-x - \cancel{2+2} = -9 + 2$$

$$-x = -7$$

$$x = 7$$

$$-x + a = b$$

$$-x + a - a = b - a$$

$$-x = b - a$$

$$x = -(b - a)$$

$$= -b + a$$

$$= a - b$$

$$-x - a = b$$

$$-x - \cancel{a+a} = b + a$$

$$-x = b + a$$

$$x = -(b + a)$$

$$= -b - a$$

$$-x - 8 = 16$$

$$x = ?$$

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• Bentuk  $ax \pm b = c$

$$2x = 4$$

$$x = 2$$

$$2 \cdot 2 = 4$$

$$3x = 12$$

$$x = 4$$

$$\underline{4x = 20}$$

$$x = 5$$

$$\underline{2x = 8}$$

$$\frac{2}{2}x = \frac{8}{2}$$

$$x = 4$$

$$3x = 12$$

$$\frac{3}{3}x = \frac{12}{3}$$

$$x = 4$$

$$5x = 35$$

$$\frac{5}{5}x = \frac{35}{5}$$

$$x = 7$$

$$2x + 3 = 7$$

$$2x = 4$$

$$x = \frac{4}{2} = 2$$

$$2x + 9 = 16$$

$$2x = 7$$

$$x = \frac{7}{2} = 3\frac{1}{2}$$

$$3x - 4 = 24$$

$$\underline{3x = 28}$$

$$x = \frac{28}{3}$$

$$5x - 7 = 36$$

$$\underline{5x = 43}$$

$$x = \frac{43}{5} = 8\frac{3}{5}$$

$$ax + b = c$$

$$\underline{ax = c - b}$$

$$x = \frac{c - b}{a}$$

$$ax - b = c$$

$$x = ?$$

$$5x - 7 = 29$$

$$x = ?$$

$$9x - 9 = 36$$

$$x = ?$$

$$6x + 9 = 48$$

$$x = ?$$

$$-6x - 3 = 12$$

$$x = ?$$

$$-7x + 8 = 19$$

$$x = ?$$

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• Berbagai Variasi Soal

$$3x + 2 = x + 7$$

$$3x = x + 7 - 2$$

$$3x = x + 5$$

$$2x = 5$$

$$x = \frac{5}{2}$$

$$5x + 8 = 3x + 3$$

$$5x = 3x - 5$$

$$2x = -5$$

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

$$3x + 6 = 2x + 7$$

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

$$5x - 7 = -3x + 4$$

$$-8x + 9 = -2x + 3$$

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

$$21x + 3 = 29x - 3$$

$$30x - 7 = 18x - 4$$

$$9 - 7x = 8x - 8$$

$$-7x = 8x - 17$$

$$-15x = -17$$

$$x = \frac{-17}{-15} = \frac{17}{15}$$

$$25 - 4x = 7x + 16$$

$$-4x = 7x - 9$$

$$-4x - 7x = -9$$

$$-11x = -9$$

$$x = \frac{-9}{-11} = \frac{9}{11}$$

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Bentuk  $\frac{a}{b}x + c = d$

$$\frac{2}{3} \cdot \frac{3}{2} = 1$$

$$\frac{4}{8} \cdot \frac{8}{4} = 1$$

$$\frac{6}{7} \cdot \frac{7}{6} = 1$$

$$\frac{6}{18} \cdot \frac{18}{6} = 1$$

$$\frac{5}{7}x - 8 = 11$$

$$\frac{5}{7}x = 19$$

$$x = 19 \frac{7}{5} = \frac{133}{5}$$

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

$$\frac{2}{3}x = 5$$

$$\frac{2}{3} \cdot \frac{3}{2}x = 5 \cdot \frac{3}{2}$$

$$x = \frac{15}{2} = 7 \frac{1}{2}$$

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

$$-x = -1 \times \frac{5}{3}$$

$$x = \frac{5}{3}$$

$$\frac{5}{3}x = 15$$

$$\frac{5}{3} \cdot \frac{3}{5}x = 15 \cdot \frac{3}{5}$$

$$x = 9$$

$$-\frac{2}{5}x + 5 = -7$$

$$\frac{3}{2}x + 3 = 9$$

$$\frac{4}{9}x - 7 = 13$$

$$\frac{2}{5}x + 3 = 7$$

$$\frac{2}{5}x = 4$$

$$x = 4 \cdot \frac{5}{2} = 10$$

$$\frac{8}{9}x + 9 = 19$$

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• bertitik  $\frac{ax}{bc} = \frac{de}{fg}$ ,  $\frac{ab}{cx} = \frac{de}{fg}$  →

$$\frac{2}{3}x = \frac{5}{3}$$

$$\frac{2}{3} \cdot \frac{3}{2}x = \frac{5}{3} \cdot \frac{3}{2}$$

$$x = \frac{5}{2} = 2\frac{1}{2}$$

$$\frac{2x}{3a} = \frac{5b}{7e}$$

$$\frac{2}{3a}x = \frac{5b}{7e}$$

$$\frac{2}{3a} \cdot \frac{3a}{2}x = \frac{5b}{7e} \cdot \frac{3a}{2}$$

$$x = \frac{15ab}{14e} = 1\frac{1}{14} \frac{ab}{e}$$

$$\frac{5x}{3 \cdot b} = \frac{7c}{gd}$$

$$x = \frac{7c}{gd} \cdot \frac{3b}{5} = \frac{7bc}{15d}$$

$$\frac{ax}{bc} = \frac{de}{fg}$$

$$x = \frac{de}{fg} \frac{bc}{a}$$

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$$\frac{2}{3} = \frac{4}{6} \Rightarrow \frac{3}{2} = \frac{6}{4}$$

$$\frac{ab}{cx} = \frac{de}{fg}$$

$$\frac{cx}{ab} = \frac{fg}{de}$$

$$x = \frac{fg}{de} \frac{ab}{c}$$

$$\frac{ab}{cd} = \frac{ef}{gh} \quad h = ?$$

$$\frac{cd}{ab} = \frac{gh}{ef}$$

$$\frac{ef}{g} \frac{cd}{ab} = h$$

$$- \frac{ab}{cd} = \frac{ef}{gh} \quad f = ?$$

$$- \frac{ab}{cd} \frac{gh}{e} = f$$

$$\frac{ax}{bc} = \frac{az}{kl} \Rightarrow l = ?$$

$$\frac{bx}{zk} = \frac{lm}{cd} \Rightarrow m = ?$$