

# Unit 4: Equalities Day 1

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Math 9 Principles

**4-1 I can translate word phrases into algebraic expressions and solve equations using zero sums.**

*Beneath each question, show all steps until a solution is reached. Where necessary, rearrange solutions to read left to right. Circle each solution.*

1) $3x = 6 + 2x$	2) $-6 = x - 3$
3) $4x - 5 = 3x + 2$	4) $-7 - 2x = 6 - 3x$
5) $6x + 4 = 5 + 7x$	6) $2 - 5x = -4 - 6x$
7) $8x - 3 = 2 + 9x$	8) $-5x - 7 = -4x - 2$
9) $-7x - 5 = -6x + 2$	10) $-4x - 3 = -3x + 8$
11) $2x - 1 = x + 4$	12) $-3x + 4 = 7 - 4x$
13) $-2 - x = 8 - 2x$	14) $6x + 2 = 5x - 6$

15) $-7x - 8 = -8x + 3$	16) $9 - 8x = -9x - 3$
17) $-3x - 4 = -4x + 1$	18) $7x - 3 = 6x + 2$
19) $9x + 2 = 8x - 7$	20) $5x - 7 = 4x + 11$

*Translate each of the following into an algebraic expression.*

21) The sum of a number and 15

22) A number reduced by 50

23) Nine increased by twice  $j$

24) One third of the sum of  $g$  and 7

25)  $f$  increased by 4

26) 5 less than  $h$

27) Three-fifths of a number

28) Thirty plus four times  $k$ .

29) 25 more than the number of cents in  $d$  dimes

30) 18 less than the number of cents in  $q$  quarter