

Unit 4: Equalities Day 2

Math 9 Principles

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

Combine like terms first, then solve for x .

1) $7x - 2 - 2x + 5 = -2x + 1 + 6x$	2) $-5x + 2 + 2x = 4x - 1 - 6x$
3) $-3x - 4 + 7x - 2 = -4x - 3 + 7x - 4$	4) $-3x - 2 - 2x + 4 = -8x - 3 + 2x - 1$

Expand each set of brackets and combine like terms where necessary. Then solve for x .

5) $2(x + 5) = 3(x - 1)$	6) $2(3 + x) - (x - 4) = 13$
7) $-5(x - 2) - 2(x + 4) = -8(x - 3)$	8) $-3(x + 4) - (3 - 7x) = 3(x - 2)$

Solve for x in each. Circle your answer.

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

$$14) -3(x - 2) - (x + 4) = -8(x + 2) + 5(x - 4)$$

Translate each problem into an algebraic equation then solve.

- 15) Two less than three times a number is the same as three more than four times the number.
- 16) The sum of three consecutive integers is the same as seven more than twice the first integer.
Find the first integer.
- 17) Four more than five times a number is the same as the product of four and three less than the number.
- 18) Eight less than an integer is three less than twice the next consecutive integer.
- 19) Five less than four times a number is equal to two more than three times the same number.
Find the number.
- 20) The sum of three consecutive integers is the same as seven less than twice the middle integer.
Find the first integer.
- 21) Five less than an integer is the same as four less than twice the next consecutive integer.
Find the integer.