

Homework: Open Sentences

State whether each equation is true or false for the value of the variable given. Show your work to determine your answer.

1. $5x - 8 = 22$, for $x = 6$ **true** 2. $4x^2 - 3(5) = 12$, for $x = 3$ **false**
3. $(8 - n)^2 + 13 = 23$, for $n = 3$ **false** 4. $17x - 8(2x - 4) = 32$, for $x = 3$ **false**
5. $2x + 12 + 8x \geq 32$, for $x = 2$ **true** 6. $6(3x - 2) + 5 < 50$, for $x = 3$ **true**

Find the solution set for each equation or inequality using the given replacement set for x . Be sure to give all numbers that work to make the statement true. There may be 1, more than one, or no solutions to each. ** Do your work in the space below the chart.

Replacement set	equation/inequality	solution set
7. 1, 2, 3, 4	$5x + 2 = 17$	3
8. 2, 3, 4, 5	$3x - 2 > 4$	3, 4, 5
9. 1, 3, 5, 7	$2x^2 + 4 = 54$	5
10. 2, 4, 6, 8	$7x - 7 < 30$	2, 4
11. 3, 5, 6, 9	$2(2x + 4) \geq 20$	3, 5, 6, 9
12. 1, 2, 3, 4	$5x - 6 = 24$	none

**Work space: Number each problem for #7 – 12 and substitute the values to check for solutions
Number 7 is done for you as an example.

- #7. $5(1) + 2 = 17$ false
 $5(2) + 2 = 17$ false
 $5(3) + 2 = 17$ true
 $5(4) + 2 = 17$ false