

Unit 4: Equalities Practice Test

Math 9 Principles

Name: _____ Block: _____

Please initial this box to indicate you carefully read over your test and checked your work for simple mistakes.

	What I can do in this unit	Level
4-1	I can translate word phrases into algebraic expressions and solve equations using zero sums.	
4-2	I can solve equations using zero sums and multiplying and dividing coefficients.	
4-3	I can solve equations involving fractions by clearing the fractions, multiplying by the Least Common Denominator (LCD).	
4-4	I can solve equations involving proportions using cross-multiplication.	
4-5	I can solve inequalities and graph the result on a number line.	

Code	Value	Description
N	Not Yet Meeting Expectations	I just don't get it.
MM	Minimally Meeting Expectations	Barely got it, I need some prompting to help solve the question.
M	Meeting Expectations	Got it, I understand the concept without help or prompting.
E	Exceeding Expectations	Wow, nailed it! I can use this concept to solve problems I may have not seen in practice. I also get little details that may not be directly related to this target correct.

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

Solve for x .

1) $7x = 6x - 3$	2) $5x - 2 = 5 + 6x$
3) $-5x + 8 = -4x + 2$	4) $-3x - 2 - 2x + 4 = -8x - 3 + 2x - 1$
5) 12 less than twice a number is equal to 15.	6) The sum of three consecutive integers is the same as 15 more than twice the first integer. Find the first integer.
7) Six less than double an integer is the same as six more than triple the number.	8) The sum of three consecutive integers is the same as nine more than twice the middle integer. Find the largest integer.

4-2 I can solve equations using zero sums and multiplying and dividing coefficients.

Solve for x .

9) $6x - 5 = 8x + 7$

10) $8x + 4 = 15x - 10$

11) $6y + 2 = y - 5 + y - 7 + 2y$

12) $4a - 7 + 3a = -a - 13 + 2a$

13) $7y + 6 = 12y - 9$

14) $15x + 3 - 2x = 11x + 6$

15) The sum of two consecutive integers is 49. What is the smallest integer?

16) The perimeter of a rectangle is 44cm. The length is four less than double the width. Determine the length and the width.

4-3 I can solve equations involving fractions by clearing the fractions, multiplying by the Least Common Denominator (LCD).

Solve for x . Show all steps. Circle your answer.

17) $\frac{5}{6}x = 35$	18) $5 - \frac{3}{4}x = -4$
19) $\frac{2}{3}(3x - 4) = 6$	20) $2x - \frac{3}{4} = -\frac{2}{3}$
21) $x - \frac{2}{3} = \frac{4}{5}$	22) $5x + \frac{3}{10} = \frac{1}{4}$
23) 20 more than one third of a number is the same as five more than the original number. What is the number?	24) One fifth of a number plus one half is equal to 1. What is the number?

4-4 I can solve equations involving proportions using cross-multiplication.

Solve for x. Show all steps. Circle your answer.

25) $\frac{x}{10} = \frac{5}{2}$

26) $\frac{3}{4} = \frac{x}{3}$

27) $\frac{x+1}{2} = \frac{x-2}{3}$

28) $\frac{x-3}{4} = \frac{x+4}{5}$

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

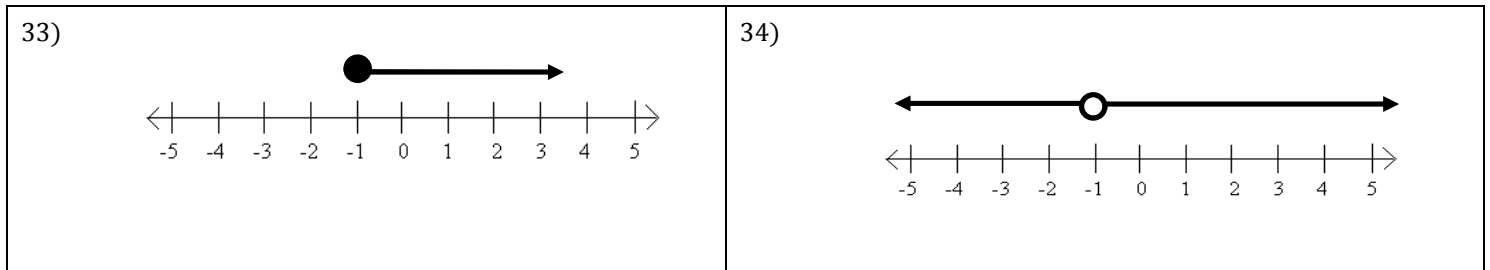
30) $\frac{3x-4}{5} = \frac{-2x+7}{3}$

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

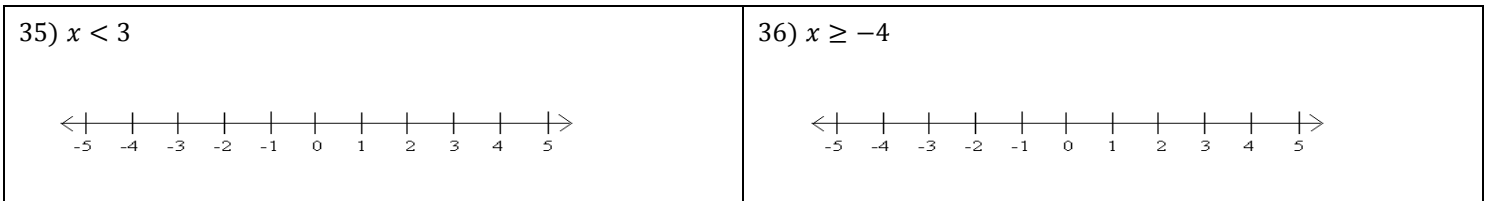
32) $\frac{x+7}{5} = \frac{3x-4}{10}$

4-5 I can solve inequalities and graph the result on a number line.

Write an inequality that describes each range of values illustrated by each graph. Use the variable x .



Graph each inequality on a number line.



Solve each inequality. Show your work.

37) $12 - 4x \leq 16$	38) $5x > -20$
39) $-1 < 8 + x$	40) $1 + 3x > x - 5$
41) $-6x - 1 \leq 4x + 9$	42) $8n - 2(n + 5) < 4n - 16$
43) $2n - 12 \leq 6(2 + n)$	44) $-3(2n - 6) < 3n$