

Unit 4 - Vocabulary

Term	Definition
Constant of proportionality	The constant k in a direct variation equation; it is the ratio of $\frac{y}{x}$, or of $\frac{\text{dependent variable}}{\text{independent variable}}$. It is the same as unit rate.
Dependent Variable	The "output" or y value, which "depends" on the input (x value/independent variable)
Direct Proportion (Direct Variation)	A relationship between two variables, x (independent) and y (dependent) that can be written as $y=kx$, where $k \neq 0$
Equation	A mathematical sentence containing an equal sign, showing two equivalent values
Independent Variable	The "input" or x value, which determines the "output" or y value/dependent variable
Inequality	A statement showing that two values are NOT equal, using one of the following signs: $>$, $<$, \geq , \leq or \neq
Inverse Operation	Opposite operations that "undo" each other
Variable	A symbol, usually a letter, that represents a number

Unit 4 – Vocabulary – You Try

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Dependent Variable	
Direct Proportion (Direct Variation)	
Equation	
Independent Variable	
Inequality	
Inverse Operation	
Variable	

More Equation Solving (+/-)

Solve each equation. Show ALL your work.

1) $x + 4 = 5$	2) $x - 1 = 3$
3) $y - 3 = 4$	4) $y + 5 = 5$
5) $s + 8 = 9$	6) $s - 7 = 0$
7) $n - 6 = 3$	8) $n + 9 = 11$

More Equation Solving (x/÷)

Solve each equation. Show ALL your work.

1) $5x = 25$	2) $\frac{y}{4} = 7$
3) $\frac{n}{2} = 19$	4) $6g = 54$
5) $8b = 64$	6) $\frac{h}{6} = 11$
7) $\frac{f}{4} = 9$	8) $7s = 49$

Writing Inequalities

Inequalities can be written to represent many situations.

Examples:

There are at least 25 students in the auditorium.

$n \geq 25$ "at least" means greater than or equal to
n represents the number of students in the auditorium

No more than 150 people can occupy the room.

$r \leq 150$ "no more than" means less than or equal to
r represents the possible room capacity

You Try:

Write an inequality for each given situation.

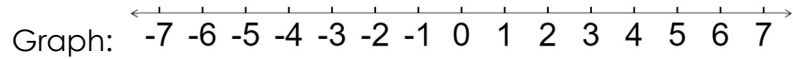
- 1) You cannot eat more than 2 pieces of your Halloween candy per day.
- 2) There are less than 15 people in the room.
- 3) There are at most 12 books on a shelf.
- 4) There are fewer than 200 people at the game.
- 5) You must get at least 30 minutes of exercise each day.

- 6) You must be at least 15 years old to get your driver's permit.
- 7) A pony is less than 14.2 hands tall.
- 8) You must be over 12 years old to ride the go karts.
- 9) The pig weighs at most 220 pounds.
- 10) Every candy bar costs at least \$2.20.
- 11) You must complete at least 80% of your homework to attend the Homework Stars Celebration.
- 12) There are no more than seven people on the boat.
- 13) More than 40 people attended the movie last night.
- 14) You must be under 54" to ride the kiddie rides at Six Flags.
- 15) Getting at least 8 hours of sleep at night keeps you healthy.

Write the inequality AND graph for each problem below in 7 - 10

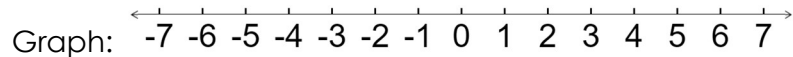
7) Fetty Wap has **at least 3 fans** in Mrs. Ledesma's 3rd period math class.

Inequality: _____



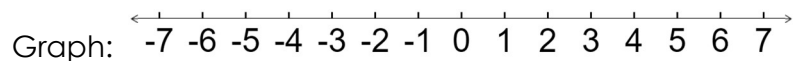
8) Mr. Shaw should send Mrs. Shaw **more than 6 roses per day**.

Inequality: _____



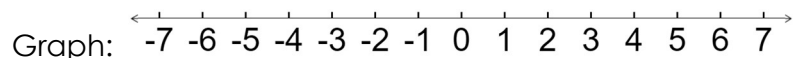
9) Shawn snuck into a G Rated movie because he thought you had to be **at most 7 years old**.

Inequality: _____



10) When trick or treating, Daniella's dream came true. A lady told her she could take **no less than 5 pieces of candy**.

Inequality: _____



More Practice with Inequalities

Write an inequality for each situation, and graph on a number line.

1) Students must score at least 800 to pass the CRCT.



2) You must be shorter than 48" to ride the kiddie train.



3) You should brush your teeth at least twice a day.



4) A good credit score is higher than 699.



5) Classes can have no more than 34 students.



6) AJ needs to save more than \$500.



7) A book costs less than \$20

