### Lesson 3 Practice Problems

1. In this hanger, the weight of the triangle is $x$ and the weight of the square is $y$.
* 
	1. Write an equation using $x$ and $y$ to represent the hanger.
	2. If $x$ is 6, what is $y$?
1. Andre and Diego were each trying to solve $2x+6=3x−8$. Describe the first step they each make to the equation.
	1. The result of Andre’s first step was $-x+6=-8$.
	*
	1. The result of Diego’s first step was $6=x−8$.
	2. Complete the table with values for $x$ or $y$ that make this equation true: $3x+y=15$.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| * + $x$
 | * + 2
 |  | * + 6
 | * + 0
 | * + 3
 |  |  |
| * + $y$
 |  | * + 3
 |  |  |  | * + 0
 | * + 8
 |

* 1. Create a graph, plot these points, and find the slope of the line that goes through them.​​​​
	+ 
* (From Unit 3, Lesson 11.)
1. Match each set of equations with the move that turned the first equation into the second.
	1. $6x+9=4x−3$
	$2x+9=-3$
	2. $-4\left(5x−7\right)=-18$
	$5x−7=4.5$
	3. $8−10x=7+5x$
	$4−10x=3+5x$
	4. $\frac{-5x}{4}=4$
	$5x=-16$
	5. $12x+4=20x+24$
	$3x+1=5x+6$
	6. Multiply both sides by $\frac{-1}{4}$
	7. Multiply both sides by $-4$
	8. Multiply both sides by $\frac{1}{4}$
	9. Add $-4x$ to both sides
	10. Add $-4$ to both sides
2. Select **all** the situations for which only zero or positive solutions make sense.
	1. Measuring temperature in degrees Celsius at an Arctic outpost each day in January.
	2. The height of a candle as it burns over an hour.
	3. The elevation above sea level of a hiker descending into a canyon.
	4. The number of students remaining in school after 6:00 p.m.
	5. A bank account balance over a year.
	6. The temperature in degrees Fahrenheit of an oven used on a hot summer day.
* (From Unit 3, Lesson 14.)



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