Mastery Algebra 1 Practice Mastery Quiz 1-1 Name:_____

1. What is an algebraic expression for each word phrase?
   a. the sum of 5 and a number x
   b. 3 less than a number n
   c. 4 more than twice a number y
   d. 2 minus the quotient of 6 and r

2. What is the algebraic expression for each word phrase?
   a. three less than 8 times a number p
   b. 7 decreased by 9 times e
   c. 12 divided by q to the fifth power

3. What word phrase can you use to represent the algebraic expression $3a - 4$?

4. **Do you understand?** The table shows how the cost of hiring a tutor depends on how many hours the work takes.

Hours	Cost
1	$25
2	$40
3	$55
4	$70
5	$85

   a. What is a rule for the total cost, in words?
   b. What is a rule for the total cost, as an algebraic expression?

Mastery Algebra 1 Practice Mastery Quiz 1-2 Name:_____

1. What is the simplified form of each expression?

   a. 3^4 b. $\left(\frac{3}{4}\right)^2$

2. What is the simplified form of each expression?

   a. $24-2(9-7)^3$ b. $2\left[3^2-(10+2)\div 4\right]$

3. What is the value of $3a-\left(b^2-c\right)^2$ for $a = 10$, $b = 4$, and $c = 12$?

4. **Do you understand?** Tamera spent ¼ of her school budget on notebooks. If she had a budget of $60.00, how much will she have left to spend?

Mastery Algebra 1 **Practice Mastery Quiz 1-3** Name:_____

1. Simplify: $\sqrt{\frac{64}{49}}$

2. **Do you understand?** A classroom has an area of 350 square feet. If the classroom is shaped like a square, what is the approximate length of each side? (Round to the nearest tenth.)

3. To which subsets of the real numbers does the number 0 belong?

4. Write an inequality to compare the numbers $2\frac{3}{4}$ and $\sqrt{10}$.

5. Order the numbers $-\frac{4}{3}, \sqrt{3}, -3, -\sqrt{24}$ *and* 2.1 from least to greatest.

Mastery Algebra 1 **Practice Mastery Quiz 1-4** Name:_____

1-4 Properties of Real Numbers

Write the name of the property illustrated:

Commutative Prop of Addition,
Commutative Prop of Multiplication,
Associative Prop of Addition,
Associative Prop of Multiplication,
Zero Prop of Multiplication,
Distributive Prop,
Multiplication Prop of -1,
Identity Prop of Multiplication,
Identity Prop of Addition

1. $a+b+c+0=a+b+c$

_____

2. $-1(-5)=5$

_____

3. $x\cdot(-1)=(-1)\cdot x$

_____

Simplify:

4. $-(2x-3)$

5. $-3\left(x^2+x-2\right)$

Mastery Algebra 1 **Practice Mastery Quiz 1-5/1-6** Name:_____

NO CALCULATOR

Show all your work clearly!

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1. Find each sum.

   a. $-5+(-3)$ b. $-16+12$

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2. Find each difference.

   a. $7-(-5)$ b. $-2-(5)$

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3. Evaluate $-2a-5b-c$ for $a=-1, b=2$ and $c=-3$

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4. What is the value of $\frac{a}{b}$ when $a=-\frac{2}{3}$ *and* $b=\frac{4}{5}$?

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5. Find each product or quotient.

   a. $\frac{2}{9}\div\frac{4}{3}$ b. $\left(-\frac{5}{12}\right)\div\left(\frac{10}{6}\right)$ c. $\frac{3}{4}\left(2\frac{1}{3}\right)$

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6. A miner starts 50 feet below the ground. Then he went 20 feet lower, came back up 35 feet, and then back down 5 more. What integer describes his depth?

Mastery Algebra 1 **Practice Mastery Quiz 1-7** Name:_____

Simplify:

1. $7x-\left(-2x+5\right)+1$

2. $5y-3-(y-4)$

3. $-2m^2+6m+5m^2-4$

4. $-2(5x-3)+(3x-1)$

5. $3(x^2-xy+4y)-(x^2+2xy-6y)$

Mastery Algebra 1 **Practice Mastery Quiz 1-9** Name:_____

1. Is (3, 21) a solution of the equation $y = x^2 + 5x$? Show how you know.

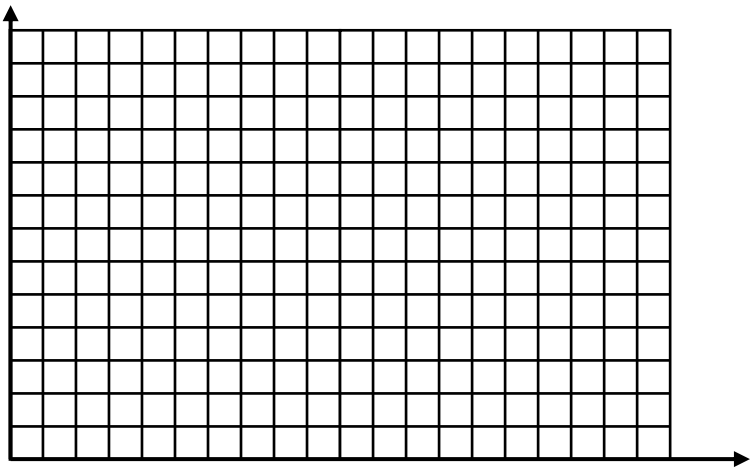
2. Vince earns $8.50 an hour at a fast-food restaurant.

   a) Fill in the chart that represents this situation.

# hours	Total $
1	
	25.50
4	
	51.00

   b) Write an equation to represent this situation.
   Let x = # hours of working
   Let y = total $ made during that time

   c) Make a graph of this situation on the grid below. Be sure to label clearly!



   d) How many hours did Vince work if he was paid $119?