*you may use a calculator

Algebra 1 Name Key ID: 1

Chapter 1 Review

Date _____ Period ____

1) What does 3^5 mean? $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$

What is 3^5? 243

Evaluate each expression.

2) $\frac{(5)(2)}{5} + 1$

$\frac{10}{5} + 1 \quad 2 + 1 = \boxed{3}$

3) $(3 - 2 + 3)(4)$

$(-2)(4)$

$\boxed{-8}$

Evaluate each using the values given.

4) p^2q; use $p = 2$, and $q = 3$

$(2)^2 \cdot (3)$

$4(3) = \boxed{12}$

5) $z - (x - 1)$; use $x = 2$, and $z = \frac{5}{2}$

$\frac{5}{2} - (2 - 1)$

$\frac{5}{2} - 1$

$\frac{5}{2} - \frac{1}{1} \cdot \frac{2}{2}$

$\frac{5}{2} - \frac{2}{2} = \boxed{\frac{3}{2}}$

Write an algebraic expression for the following phrases.

6) Twelve less than six times a number.

$6n - 12$

The quotient of a number and 3.

$n/3$

Four more than double a number.

$2n + 4$

7) Your dad has offered to pay for you and your friends to go to a concert for your birthday. The concert tickets are $34 each, plus a one time convenience fee of $10.

a) How much would it cost for you and 2 of your friends to go to the concert?

$C = 34(2) + 10$ It will cost $78.

b) How much would it cost for you and 4 of your friends to go to the concert?

$C = 34(4) + 10$ It will cost $146.

c) How much would it cost for you and n of your friends to go to the concert?

$\boxed{34n + 10}$

8) $A = 2n + 7$

Find A_6 $A_6 = 2(6) + 7$

$\boxed{A_6 = 19}$

9) $A = -3n$

Find the first five terms of the sequence.

$a_1 = -3(1) = \boxed{-3}$

$a_2 = -3(2) = \boxed{-6}$

$a_3 = -3(3) = \boxed{-9}$

$a_4 = -3(4) = \boxed{-12}$

$a_5 = -3(5) = \boxed{-15}$

10) Convert 4 hours 12 minutes into hours.

$\frac{12}{60} = .2$ $\boxed{4.2 \text{ hrs.}}$

Convert 2.3 miles into yards.

$2.3(5280) = 12144 \text{ ft.} = \boxed{4048 \text{ yds}}$

Convert 42 inches into feet.

$42/12 = \boxed{3.5 \text{ ft}}$

Convert 150 minutes into hours.

$\frac{150}{60} = \boxed{2.5 \text{ hrs.}}$

11) You need plumbing work done at your house. You have two plumbers you are thinking about hiring. Henry charges $100 plus an additional $10 per hour worked. George charges $50 plus an additional $15 per hour worked.

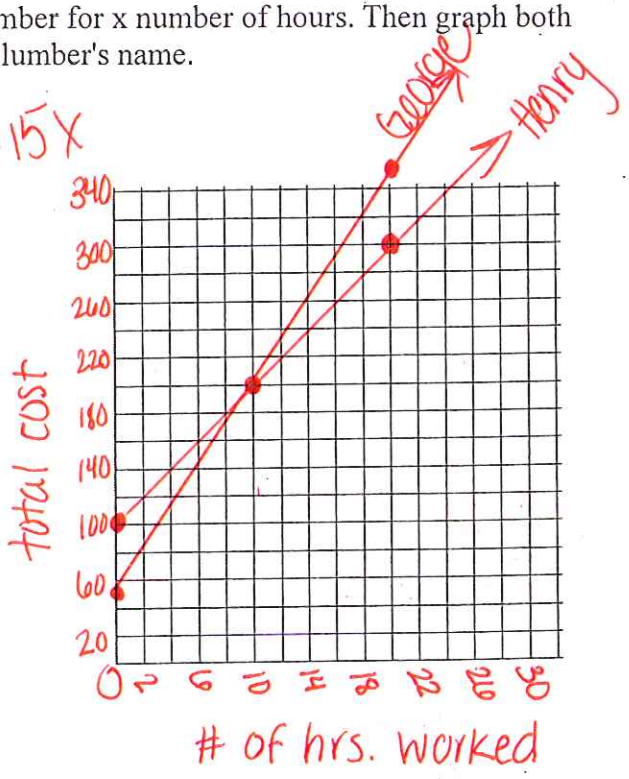
Fill in the tables below with the cost of hiring each plumber for x number of hours. Then graph both plumbers on the same graph. Label each line with the plumber's name.

Henry $= 100 + 10x$

# of hrs worked x	y total cost
0	100
5	150
10	200
15	250
20	300

George $= 50 + 15x$

# of hrs worked x	y total cost
0	50
5	125
10	200
15	275
20	350



If you only have 2 hours of plumbing work, who would you hire? Explain.

George because the line is lower meaning he will be cheaper.

If you have 12 hours of plumbing work, who would you hire? Explain.

Henry because he will be cheaper.

Where do the graphs intersect? (10, 200) Explain what the intersection point means in terms of the story problem. This means that for 10 hrs of work, both Henry + George will charge you $200.

12) Look at the sequence below:

4, 1, -2, -5...

A) What are the next 2 numbers in the sequence?

-8, -11

B) Make an IPO chart for the sequence.

Goes down by 3 so adding -3 each time.

I	P	O
1	$-3(1)+7$	4
2	$-3(2)+7$	1
3	$-3(3)+7$	-2
4	$-3(4)+7$	-5
n	$-3n+7$	

C) What is an expression for the *n*th term in the sequence? $-3n+7$

D) What is the 56th term in the sequence?

$-3(56)+7 = -161$