

Name: _____
Date: _____
Class: _____

Algebra
Review
Graded Homework 16

Show all of your work for every problem. The numbers in the brackets are the points that each problem is worth. Multiple Choice Problems are worth 3.
NO WORK = ZERO CREDIT

1) [3]

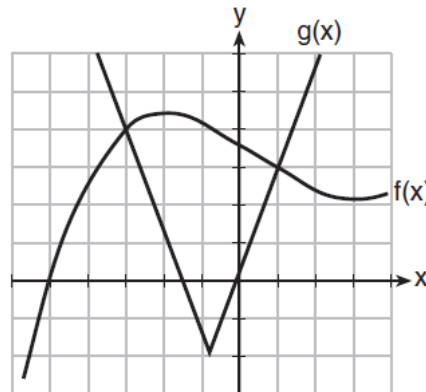
Consider the pattern of squares shown below:



Which type of model, linear or exponential, should be used to determine how many squares are in the n th pattern? Explain your answer.

2) [2]

The graph below shows two functions, $f(x)$ and $g(x)$. State all the values of x for which $f(x) = g(x)$.



3) [3] Solve the equation below for x in terms of a .

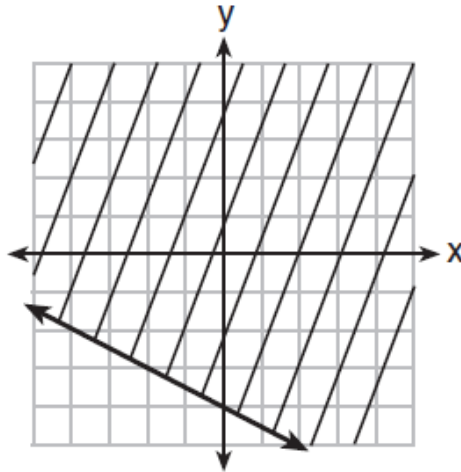
$$4(ax + 3) - 3ax = 25 + 3a$$

4) [4] Solve the following using a system of equations:

For a class picnic, two teachers went to the same store to purchase drinks. One teacher purchased 18 juice boxes and 32 bottles of water, and spent \$19.92. The other teacher purchased 14 juice boxes and 26 bottles of water, and spent \$15.76.

5) [3]

Shawn incorrectly graphed the inequality $-x - 2y \geq 8$ as shown below.



Explain Shawn's mistake.

6) [5]

A drama club is selling tickets to the spring musical. The auditorium holds 200 people. Tickets cost \$12 at the door and \$8.50 if purchased in advance. The drama club has a goal of selling at least \$1000 worth of tickets to Saturday's show.

Write a system of inequalities that can be used to model this scenario.

If 50 tickets are sold in advance, what is the minimum number of tickets that must be sold at the door so that the club meets its goal? Justify your answer.

7) If $f(n) = (n - 1)^2 + 3n$, which statement is true?

(1) $f(3) = -2$

(3) $f(-2) = -15$

(2) $f(-2) = 3$

(4) $f(-15) = -2$

8) Which function defines the sequence $-6, -10, -14, -18, \dots$, where

$f(6) = -26$?

(1) $f(x) = -4x - 2$

(3) $f(x) = -x + 32$

(2) $f(x) = 4x - 2$

(4) $f(x) = x - 26$