**Algebra 2H: Relations, Functions, Graphs**

Practice

**Group A**

There are **20 questions** in this test, each worth **2pts** .

There are **2 additional** extra-credit questions, each worth **1pt**.

You have **45 minutes** to complete the test (more if you have accommodations).

=== Start of test

For each of the following, choose the most specific name from “Relation”, “Function”, or “1-to-1 function”:

1)

a) Relation b) Function c) 1-to-1 function

2)

a) Relation b) Function c) 1-to-1 function

3)

a) Relation b) Function c) 1-to-1 function

4)



a) Relation b) Function c) 1-to-1 function

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Find the equation for the following lines:

5) With slope = -2 and y-intercept = 1. Give your result in slope-intercept form.

6) Through (3,-2) with slope = 2. Give your result in slope-intercept form.

7) Through (2,1) and (1,-2). Give your result in slope-intercept form.

8) Perpendicular to the line , and having x-intercept 5. Give your result in slope-intercept form.

9) Parallel to the line , and containing the point . Give your result in slope-intercept form.

10) Perpendicular to the line , and having y-intercept 5. Give your result in slope-intercept form.

11) Write in standard form the equation

12) What is the slope of the line going through the points and ?

13) What is the slope of the line given by ?

14) During the summer, I wanted to try a new Gym. The Gym had two plans:

a. Plan I: Registration fee of $100. Then, $50 for each month.

b. Plan II: Drop in rate of $12 per visit.

Explain (preferably with numbers) your answers to the below:

1. If I plan to visit 4 times a month, for three months, which plan should I use?

2. If I plan to visit 8 times a month, for three months, which plan should I use?

3. Over how many visits a month, for three months, would plan I be better?

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Given the following definitions:

, ,

Find the following:

15)

16)

17)

18)

19)

20)

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Extra-credit

21) Two lines are perpendicular, and neither is vertical. How many quadrants must the lines pass through? Explain.

22) The picture below describes a right triangle. The 3 sides have slopes denoted as .

What can you say about the value of the product ? See 4 options below. Explain your answer.





=== End of test