

Name: _____
Block: _____

Practice

Algebra 2H: Inverse functions, logarithms, and right-triangle trigonometry

(Practice)

Remember: The goal of this test is to enable you to demonstrate your knowledge of the material.

1. The test has 10 questions, plus one extra-credit question.
2. Total points available are 20, plus 1 for extra credit.
3. You have 30 minutes (one block) to complete the test (more if you have accommodations).

Common test instructions:

4. You should **SHOW YOUR WORK** for all parts of the answer in order to receive full credit.
5. Write your answers using either Blue or Black ink or a pencil. Please don't use red pen.
6. Clearly indicate (underline/ box/highlight) your final answer. Mark only **ONE** answer per question.

Special note:

7. You need to finish all aspects of the test **BEFORE** 4pm, Friday, May-12th.

If any of the above is problematic for you, please let me know **BEFORE** Wednesday, May 10th.

The use of a graphing calculator is **NOT** allowed.
A simple 4-operations calculator is allowed.

Good luck!!
Dr. Baharav

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Questions 1-6 relate to the following function $f(x)$ and its inverse $f^{-1}(x)$.

Given the function:

$$f(x) = 2 - \sqrt{x + 5}$$

1. Fill in ONLY the left table below with relevant values.
2. Fill in the Domain and Range for this table.

Function:

x	f(x)

Domain: _____

Range: _____

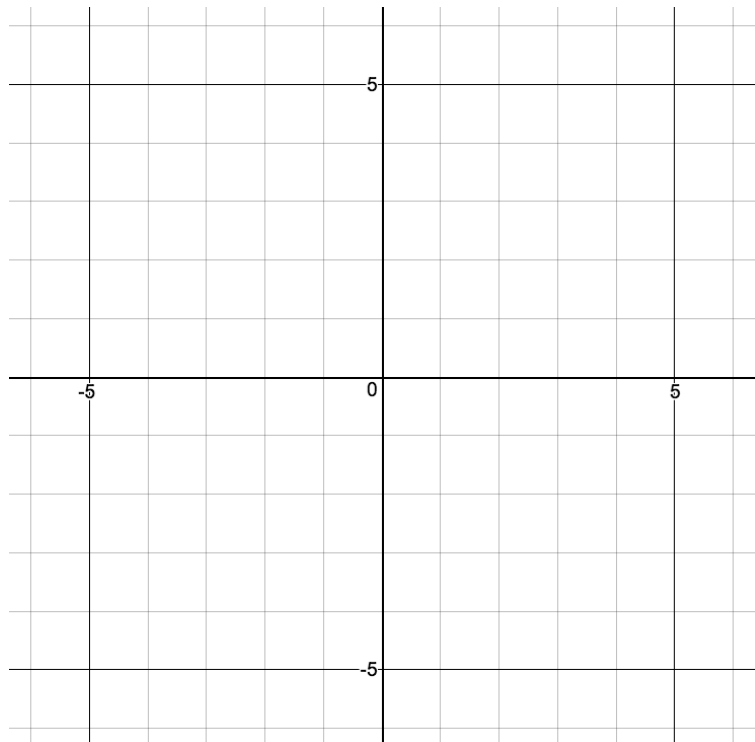
Inverse:

In	out

Domain: _____

Range: _____

3. Graph the function, and draw the line of reflection $y = x$ (please draw it lighter, or dashed).



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4. Fill in the RIGHT hand table next to question (1) above for the INVERSE function, and determine Domain and Range.
5. Graph the inverse function on the same graph as the original. Please note the difference clearly.
6. Find an expression for the inverse function algebraically.

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7. Calculate the following:

a. $\log_2 1 =$ _____

b. $\log_4 16 =$ _____

c. $\log_{16} 4 =$ _____

d. $\log (0.1) =$ _____

8. Calculate the following:

a. $\log_4 32 - \log_4 2 =$ _____

b. $\log_{100} 10 =$ _____

c. $\log_7 7^3 =$ _____

d. $\log (25) + \log (4) =$ _____

9. Solve for x:

a. $\log_4 x = -2$

b. $3^{2x+5} = 27$

10. Fill in the below values:

a. $\sin(30^\circ) =$

b. $\cos(45^\circ) =$

c. $\tan(60^\circ) =$

d. $\tan(45^\circ) =$

=== End of test