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## Algebra II Test Review Intro to Functions Review

- The review is due on the day of the test.
- Review will not be graded unless all work and answers are written on separate paper.
- In order to be eligible to retest, this review must be complete, accurate, and turned in.
- NO WORK NO CREDIT
\#1 - 2. Use interval notation to represent the set of numbers.

1. 


2.

\#3-4. Decide whether the following function is continuous or discrete. Choose a reasonable domain and range for the situation.
3. A framing store determines the price of wood based on the area $a$ of the picture to be framed, plus an additional $\$ 3$ for installation. The function $t(a)$ describes the total cost of the framed picture, with wood and installation, based on the area of the picture.
4. A population of mice triples every 3 months. The function $p(t)$ shows the number of rabbits after $t$ months
\#5-7. Give the equation, basic graph and the domain and range for the following functions.
5. Quadratic function
6. Square root function
7. Absolute value function
8. Write the equation that is the translation of $y=x^{2}$ right 4 unit and down 1 units.
9. Write the equation that is the traslation of $\mathrm{y}=|\mathrm{x}|$ left 1 and up 11 units.
10. Describe the combined transformation for $t(x)=-3 g(x-1)+1$, in the correct order.
11. Describe the combined transformation for $t(x)=1 / 2 f(x)+7$, in the correct order.
\#12 - 13. Using the graph of $f(x)$ on the left, graph the transformations.

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\#14-15. Evaluate the following expressions given the following functions:

$$
f(x)=x^{2}-2 \text { and } g(x)=2 x+3
$$

14. $f(-2)-g(1)$
15. $f(4)-3 g(-2)$
16. Given $f(x)=|x-2|$, sketch the graph. Is $f(x)$ a function? Is it continuous or discrete?
$\# 17$ - 18. Use any method to find the inverse of the function. Then use it to find $g^{-1}(3), g^{-1}(0)$, and $g^{-1}(1)$.
17. $g(x)=\frac{1}{3} x-2$
18. $g(x)=2 x+1$

Use the graphs below to answer \#19-21.
19. Graph the inverse of the function $f(x)$ graphed below. Is it a function?

21.

\#22 - 24. Which family of functions does the graph belong to? Find the domain and range, and write it in interval notation.
22.

23.

24.

\#25-30. Match each term to its definition.
a. Continuous
d. Inverse
b. Function
e. Discrete
c. Domain
f. Range
25. A relation which has exactly one output for every input (one y for every x ).
26. A function whose graph that consists of separate, unconnected points.
27. A function whose graph is unbroken.
28. This "undoes" a function and represents it's "opposite".
29. The set of all x-coordinates.
30. The set of all $y$-coordinates.

