Module 5 Review

Graph the following functions:

|  |  |
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| http://media1.shmoop.com/images/algebra-ii/alg2_ch2_narr_graphik_2.png | http://media1.shmoop.com/images/algebra-ii/alg2_ch2_narr_graphik_2.png |
| http://media1.shmoop.com/images/algebra-ii/alg2_ch2_narr_graphik_2.png | http://media1.shmoop.com/images/algebra-ii/alg2_ch2_narr_graphik_2.png |
| http://media1.shmoop.com/images/algebra-ii/alg2_ch2_narr_graphik_2.png | http://media1.shmoop.com/images/algebra-ii/alg2_ch2_narr_graphik_2.png |
| 1. Given that graph   http://www.geocities.ws/ebayapallos/southsidehawks/math9/no52.gif | 1. http://www.geocities.ws/ebayapallos/southsidehawks/math9/no52.gifGiven that  graph |
| For each graph below, write the function graphed and them write the function as a composition of two functions. | |
|  | **Composed functions;** |
|  | **Composed functions;** |

Evaluate each composition using the following functions:

11. 12. 13.

Given the following equations, answer the questions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

14. Find

15. Compose

16. Find

1. Which composition creates the function,
2. Your computer's screen saver is an expanding circle. The circle starts as a dot in the middle of the screen and expands outward, changing colors as it grows. With a twenty-one inch screen, you have a viewing area with a 10-inch radius (measured from the center diagonally down to a corner). The circle reaches the corners in four seconds. Express the area of the circle (discounting the area cut off by the edges of the viewing area) as a function of time *t* in seconds.
3. In the mail, you receive a coupon for $5 off of a pair of jeans. When you arrive at the store, you find that all   
    jeans are 25% off.Let x represent the original cost of the jeans.   
   1. Write a function, f(x), that represents the effect of your original coupon.
   2. Write a function, g(x), that represents the effect of the 25% discount at the store.
   3. Write a function, h(x), that represents how much you would pay if you use the mail coupon first followed by applying the discount from the store.
   4. Write a function, j(x), that represents how much you would pay if you use the store discount first, followed by the mail coupon.
   5. You find a pair of jeans for $36. How much would you pay for it using both functions h(x) and J(x). If you only have $40 with you, what’s the most expensive pair of jeans you can purchase? (do not consider tax).
4. Given the following functions, find a composition of functions with each feature listed below.

, , , ,

* 1. A composition of functions with a range of
  2. A composition of functions with no roots
  3. A composition of functions with an asymptote at
  4. A composition of functions with end behavior:

1. Given . Find **.**
2. Given .
   1. Find
   2. Find
   3. Find

|  |  |
| --- | --- |
| 1. Given:   Graph the following: a. b.  c. | http://www.geocities.ws/ebayapallos/southsidehawks/math9/no52.gif |
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