

Questions on 7.6 HW? Quiz  
today...

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**Use the table to find the indicated function values.**

x	f(x)	g(x)
-2	2	3
-1	1	-2
0	3	-24
1	-1	-1
2	0	-8
3	19	0

1.  $f(g(3))$       2.  $f(g(1))$       3.  $g(f(-2))$       4.  $g(f(-1))$

5.  $g(f(0))$       6.  $g(g(-2))$       7.  $f(f(0))$       8.  $g(f(1)) = g(-1) = -2$

9. Do the graphs ever intersect each other?  
How do you know?

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9. Do the graphs ever intersect each other?  
How do you know?

**Use the graph to find the indicated values.**

10.  $f(g(-2))$                       11.  $f(g(-1))$

12.  $f(g(1.5))$                       13.  $f(f(0)) = f(2) = 6$

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**Go**  
 Topic: Finding function values given the graph  
 Use the graph to find all of the missing values.

12.  $f(\blacksquare) = 8$       13.  $g(\blacksquare) = 5$

14.  $f(\blacksquare) = -1$       15.  $g(\blacksquare) = 0$

19.  $f(-1) = \underline{0}$       20.  $g(0) = \underline{\quad}$

16.  $f(x) = g(x)$       17.  $f(x) - g(x) = 0$

18.  $f(x) * g(x) = 0$       19.  $f(2) + g(2) = \blacksquare$       20.  $f(0) - g(0) = \blacksquare$

$3 + 3 = 6$

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Topic: Identifying the 2 functions that make up a composite function

$f(g(x)) = H$

Find functions  $f$  and  $g$  so that  $f \circ g = H$ .

3.  $H(x) = \sqrt{x^2 + 5x - 4}$   
 $g(x) = x^2 + 5x - 4$   
 $f(x) = \sqrt{x}$

4.  $H(x) = \left(3 - \frac{1}{x}\right)^2$

5.  $H(x) = (3x - 7)^4$

6.  $H(x) = |5x^2 - 78|$   
 $g(x) = 5x^2 - 78$   
 $f(x) = |x|$

7.  $H(x) = \frac{2}{3 - x^5}$   
 $g(x) = x^5$   
 $f(x) = \frac{2}{3 - x}$

8.  $H(\theta) = (\tan \theta)^2$

9.  $H(\theta) = \tan(\theta^2)$

10.  $H(x) = \sqrt{\frac{1}{6x}}$

11.  $H(x) = 9(4x - 8) + 1$

**Go**

Topic: Finding function values given the graph

Use the graph to find all of the missing values.

12.  $f(\blacksquare) = 8$       13.  $g(\blacksquare) = 5$

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# Units 1-3 Review

## Inverse

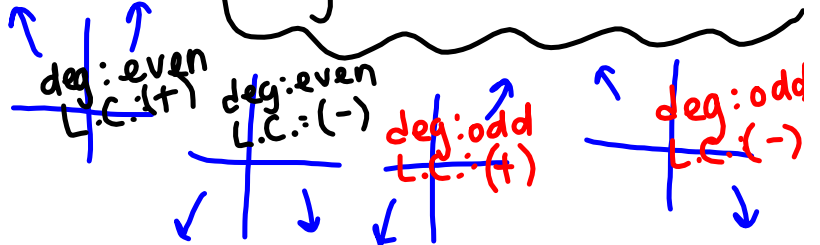
- ① switch  $x$  &  $y$
- ② solve for  $y$
- ③ make  $y = \underline{f^{-1}(x)}$

## Polynomials

degree: highest exponent

- even/odd

leading coefficient - (+)/(-)



$$2x^5 + 3x^8 - 4x^{10}$$

deg: 10  
even  
l.c.: -4

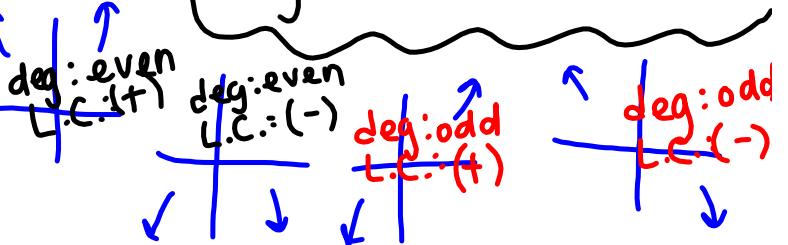
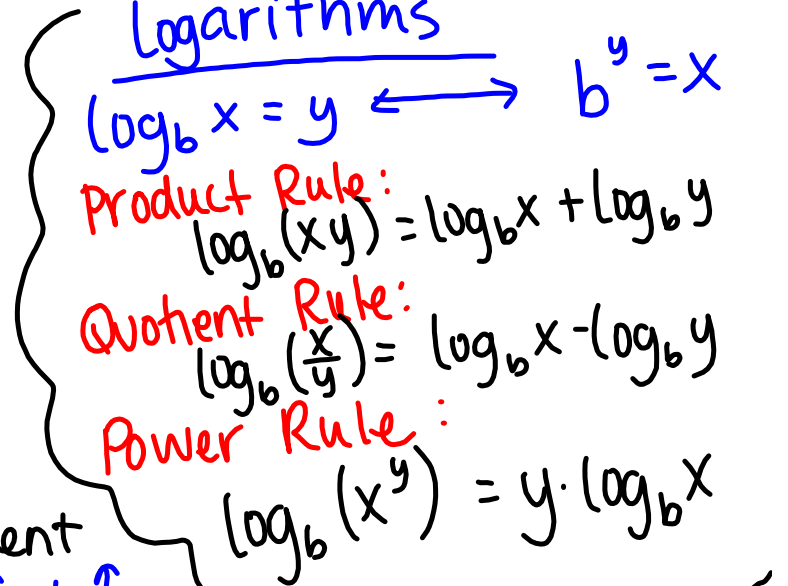
## Logarithms

$$\log_b x = y \iff b^y = x$$

Product Rule:  
 $\log_b(xy) = \log_b x + \log_b y$

Quotient Rule:  
 $\log_b\left(\frac{x}{y}\right) = \log_b x - \log_b y$

Power Rule:  
 $\log_b(x^y) = y \cdot \log_b x$



Homework

Units 1-3 Review WKS