*Honors Pre-Calc/Trig Unit 1 Functions Test*

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Level 2

1. Find the domain of *f*(*x*) = 3*x*2+7*x*+5 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Find the domain of  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Find the domain of  3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. *f*(*x*) = 3*x*+1 and *g*(*x*)= 2*x*+4 find *f(g*(*x*)) 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. *f*(*x*) = 3*x*+1 and *g*(*x*)= 2*x*+4 find *f(x*)\*g(x) 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. *f*(*x*) = 3*x*+1 and *g*(*x*)= 2*x*+4 find g(*g*(*x*)) 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. The function values of two functions are given in the following tables:

  Find the following:

7a) *f*(3) \_\_\_\_\_\_\_\_ 7b) *g*(2) \_\_\_\_\_\_\_\_\_\_

8. The graph of *f*(*x*) and *g*(*x*) are shown below

 

8a) *f* (0) \_\_\_\_\_\_\_\_ 8b) *g*(1) \_\_\_\_\_\_\_\_\_\_

9.) Given, f(x) = 4x + 80 and g(x) = 5x – 17 find the x and y intercepts of each.

x-intercept for f(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_ x-intercept for g(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_  
  
y-intercept for f(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_ y-intercept for g(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_

Level 3

1. *f*(*x*) = *x*2+3*x*+2 and *g*(*x*)= 2*x*+1 find *g*(*f*(*x*)) 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The function values of two functions are given in the following tables:

 

2.) *f* (g(0)) \_\_\_\_\_\_\_\_\_\_

3. The graph of *f*(*x*) and *g*(*x*) are shown below

 

3a) *g*(*f*(-2)) \_\_\_\_\_\_\_ 3b) Find *x* when g(*x*)= -1 \_\_\_\_\_\_\_\_\_\_

4.) Look back at your answer from #4 in the Level 2 section, what is the domain and range?

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_\_

5.) Look back at your answer from #5 in the Level 2 section, what is the domain and range?

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_\_

6.) Given the two points (-4, 1) and (-8, 10) find the following:

y-intercept form: \_\_\_\_\_\_\_\_\_\_\_\_\_ distance between them: \_\_\_\_\_\_\_\_\_\_\_\_\_

Level 4

1. As a salesperson, you currently receive a monthly salary of $2000, plus a 7% commission on your sales. You are offered a new job that pays $2300 a month, but only 5% commission on sales. Write and solve an equation that proves how much you will have to sell each month to justify taking the new job.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Honors Pre-Calc/Trig Unit 1.5 Unit Circle Test*

Level 2

Evaluate the following.

2.) 4.)

Level 3

State the Domain and Range for the following*. Briefly explain how you know each to be true.*

1. y = sin x

Domain: \_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_

Explanation:

1. y = cos x

Domain: \_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_

Explanation:

Level 4 (use the back of this page if you need more room to answer)

1. On the unit circle, reference the same angle, and they evaluate to \_\_\_\_\_\_\_\_\_\_.
2. Explain why they have the same solution.
3. If you graph y = sin x, what will the similarities and differences be when you input ?
4. How could you expand this concept to apply to all input values of sine?