Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Quarter 2

Pre-Calculus Test 2 - Review

Show all work on a separate sheet of paper. Make sure to study your notes and homework as well.

1. Divide the following and express the answer as a quotient plus remainder:
2. 
3. 
4. 
5. 
6. 
7. 
8. Show that (*x* – 2) is a factor of P(*x*) = , and find the other two factors.
9. What is the remainder when is divided by ?
10. What is the remainder when is divided by ?
11. Determine if is a factor of
12. Determine if is a factor of
13. List all of the possible rational roots for each of the following polynomials:

16. If is a factor of *f*(x) then what is one of the zeros?
17. If is a factor of *f*(x) than what is one of the roots?
18. If than what are the roots?
19. If *f*(8)=0, what is one of the factors of *f*(x)?
20. If , what is one of the factors of *f*(x)?
21. Determine algebraically whether the following functions are even, odd, or neither

a)  b)

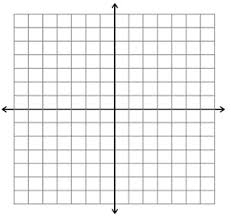
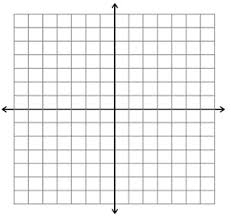
c)  d)

1. Write an equation for the indicated transformation given the function
   1. ; shift to the left 2, vertical stretch by a factor of 3, shift down 4 units
   2. 
2. Describe each transformation in terms of the original function then graph each function. State the domain, range, and any x- or y-intercepts.
   1. Original 



* 1. Original 



[](http://www.google.com/imgres?sa=X&biw=1280&bih=631&tbm=isch&tbnid=Khql0lrrMy_nDM:&imgrefurl=http://mathbits.com/MathBits/StudentResources/GraphPaper/GraphPaper.htm&docid=6RPEjJentpQNrM&imgurl=http://mathbits.com/MathBits/StudentResources/GraphPaper/14by14%20axes.jpg&w=302&h=285&ei=5maNUvaKFNKvsQTFsoHACw&zoom=1&ved=1t:3588,r:32,s:0,i:195&iact=rc&page=2&tbnh=184&tbnw=195&start=15&ndsp=21&tx=94&ty=123)

1. Use the given zero(s) to find all of the zeros for each of the following:
   1. 
   2. 
2. Use the given root(s) to find the complete factorization for each of the following:
   1. 
   2. 
3. Find the complete factorization and the complete solution set for each of the following:
   1. 
   2. 
   3. 
   4. 
4. Sketch the graphs for 18 a, b, and d.