

**SUMMER REVIEW PACKET – 2008
HONORS PRECALCULUS**

Name: _____
Per: _____ Date: _____

The problems in this packet are designed to help you review topics that are important to your success in Honors Precalculus. You are expected to show your work for each problem. The problems should be done correctly, not just tried. The packet will be graded and should be turned in by the **Deadline Date, Friday, August 29th, 2008**.

There will be a (closed note) quiz on these topics on Friday, August 29th, 2008. You can work with one or more people, but each person has to take the quiz!
Have a great summer!

I. Solve for x , where x is a real number. Show your work!

1. $x^2 + 3x - 4 = 14$

2. $6x^2 - 5x = 4$

3. $(x - 5)^2 = 9$

4. $2x^2 + 5x = 8$

5. $3x^2 = 12x$

6. $4x^2 - 3 = 0$

II. Solve for z :

7. $4x + 10yz = 0$

8. $y^2 + 3yz - 8z - 4x = 0$

III. For each function, determine its **domain** and **range**.

Function:	Domain:	Range:
9. $y = \sqrt{x-4}$	_____	_____
10. $y = \sqrt{x^2-4}$	_____	_____
11. $y = \sqrt{4-x^2}$	_____	_____
12. $y = \sqrt{x^2+4}$	_____	_____

IV. Given the functions

$$f(x) = \{(3,5), (2,4), (1,7)\} \quad g(x) = \sqrt{x-3}$$

$$h(x) = \{(3,2), (4,3), (1,6)\} \quad k(x) = x^2 + 5$$

determine each of the following:

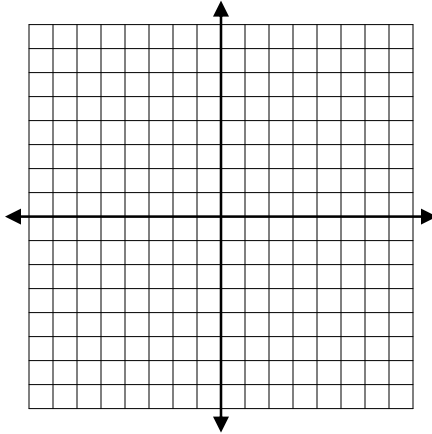
13. $h(4) =$ _____ 14. $g(52) =$ _____

15. $f(h(3)) =$ _____ 16. $g(k(7)) =$ _____

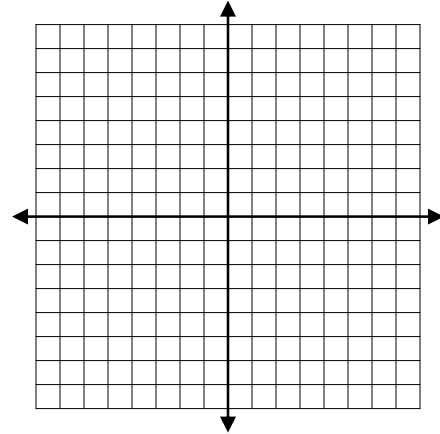
17. $g(k(x)) =$ _____ 18. $k(g(x)) =$ _____

V. Graph each function. Give its domain and range.

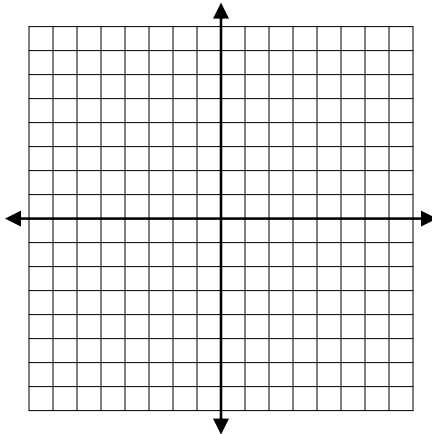
19. $y = x^3$ Domain _____
Range _____



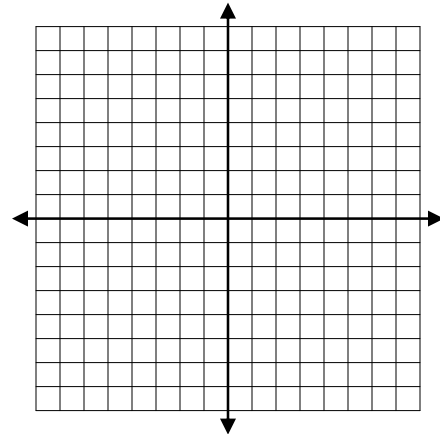
20. $y = \sqrt{x}$ Domain _____
Range _____



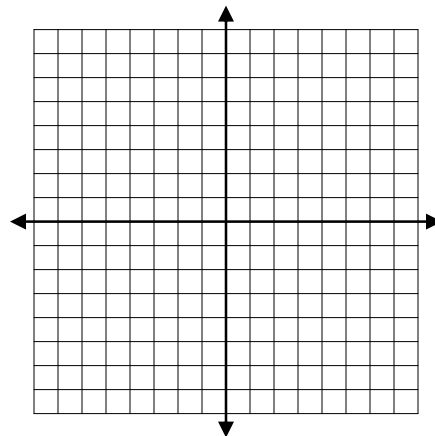
21. $y = e^x$ Domain _____
Range _____



22. $y = \ln x$ Domain _____
Range _____



23. $y = \frac{1}{x}$ Domain _____
Range _____



VI. Simplify . Show your work.

24. $\frac{x-4}{x^2-3x-4}$ _____

25. $\frac{x^3-8}{x-2}$ _____

26. $\frac{x-5}{x^2-25}$ _____

27. $\frac{x^2-4x-32}{x^2-16}$ _____

VII. Exponents and Logarithms. Simplify and evaluate where appropriate.

28. $27^{2/3} =$ _____

29. $(5a^{2/3})(4a^{3/2}) =$ _____

30. $(4a^{5/3})^{3/2} =$ _____

31. $\frac{x^3 x^{-5}}{x^{-4}} =$ _____

Solve for x .

32. $\log_5(3x+1) = 2$ _____

33. $\log_3(5x-1) = \log_3(x+7)$ _____

34. $\log 5x(x-1) = 2$ _____

35. $\ln e^7 = x$ _____