Math Analysis(AP Calculus BC Year 1) ***Name: _____***
Summer Assignment

The summer assignment is a graded assignment that is due Friday, September 11th. Use your Pre Calculus notes to complete the trigonometric values worksheet and the graphs of the trig functions given. There will be a quiz on trigonometric values and graphs (sine, cosine, and tangent) during the 2nd week of school. Be prepared.

Simplify algebraically and show all steps.

1) $\frac{-28u^8}{16u^4}$

2) $\frac{(4y^4)(5y^5)}{(8y^3)(y^6)}$

3) $\frac{-2s^2(8t^2)(5st)}{6s^3t^2(5st^3)}$

4) $\frac{(3y^2)^4}{(6y)^2}$

5) $\frac{(3x^2y)^4}{(9xy^2)^2}$

Perform the indicated operations.

6) $\frac{a^3}{2b} * \frac{3a^2}{4b}$

7) $\frac{3x^3}{-4y} * \frac{16y^5}{12x^3}$

8) $10a^2 \div \frac{2a}{5b}$

9) $\frac{x^2}{10} \div (\frac{2}{x} \div \frac{x}{5})$

10) $\frac{4x^2(x^2)}{2y(y)} \div \frac{4x(x)}{2y^2(y)}$

11) $\frac{3}{4} - \frac{5}{18} - \frac{1}{9}$

12) $\frac{4}{x^3} + \frac{7}{y}$

13) $\frac{2}{x^3} - \frac{4}{3x^2}$

14) $\frac{5+b}{4ab^2} + \frac{9}{10a^3b}$

Solve. Reduce all answers to lowest terms.

15) $\frac{u}{3} - \frac{u}{9} = 4$

16) $\frac{x-2}{6} - 2 = \frac{x-1}{9}$

17) $\frac{y+2}{14} - \frac{4y+1}{7} = 1$

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18) $\frac{t}{6}+\frac{t+3}{5}+\frac{t-2}{5}=\frac{8t+11}{6}$

Simplify to lowest terms with positive exponents only.

19) $\frac{(2a^3b^4)^2}{(a^2)^3b^2}$

20) $(\sqrt{3}\ xy^2)^4$

21) $\frac{(\sqrt{2}x^4)^6}{(\sqrt{3}x^2)^4}$

22) $10^{-2}*10^{-4}*10^5$

23) $-(3y)^{-2}$

24) $(a^5b^{-2})^{-3}$

25) $\frac{-4a^{-4}}{2a^{-2}}$

26) $(\frac{y^{-3}}{y^{-5}})^{-2}$

Evaluate.

27) $2a^2-5a+7$ **for a = -2**

28) $-3x^2+8x-1$ **for x = 2/3**

29) $-\frac{1}{4}x^2-\frac{1}{6}x+1$ **for x = -1/3**

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Multiply.

30) (4a +3b)(7a-2b)

31) $(3x-2y)^2$

32) $(2x-1)^3$

33) (x-3)(x-4)(x-2)

Simplify to one term.

34) $\frac{x}{\sqrt{x-1}}+\sqrt{x-1}$

35) $\frac{5x^2}{2\sqrt{x^2-5}}-\sqrt{x^2-5}$

36) $\frac{x}{(x+1)^3}+\frac{5}{(x+1)^2}$

Simplify to radical form.

37) $x^{\frac{1}{2}}$

38) $y^{\frac{5}{4}}$

39) $2x^{-\frac{1}{2}}$

40) $\frac{y^{\frac{1}{2}}}{x^{\frac{1}{2}}}$

41) $\frac{4x^{\frac{1}{3}}y^{\frac{5}{3}}}{16x^{\frac{4}{3}}y^{\frac{2}{3}}}$

42) $\frac{6x^{\frac{1}{2}}}{15x^{\frac{2}{3}}}$

AP Calculus BC
Trigonometric values

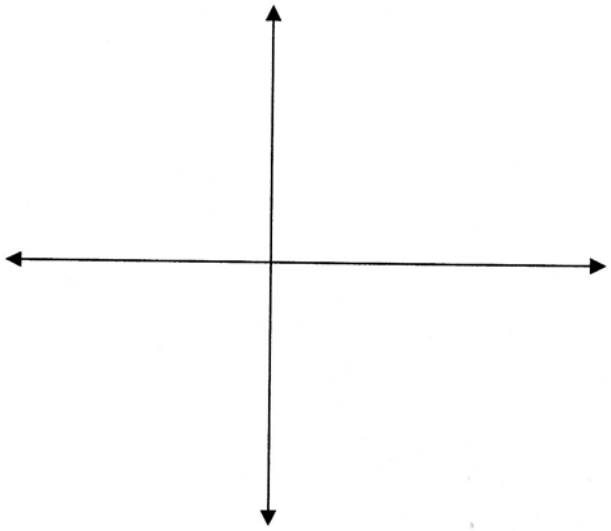
Complete the table by inserting the exact values for each trigonometric expressions given. Memorize the table!

	Quadrant	Reference Angle (degrees)	Sin θ	Cos θ	Tan θ
0°					
π/6					
π/4					
π/3					
π/2					
2π/3					
3π/4					
5π/6					
π					
7π/6					
5π/4					
4π/3					
3π/2					
5π/3					
7π/4					
11π/6					
2π					

Trigonometric Graphs.

Draw two complete periods of the graph of the following functions listed below. Label the axes, the zeros and asymptotes of the graph.

1) $y = \sin x$ on $[-2\pi, 2\pi]$.



2) $y = \tan x$ on $[-\pi/2, \pi/2]$.