

Directions: Complete these 80 Pre-calculus Review Questions on a **separate sheet of A4 paper** and be prepared to discuss them on the first day of class.

NO CALCULATORS !	NO CALCULATORS !
1) Find the domain of the function $f(x) = \sqrt{x-3}$ _____	11) If $f(x) = x^2 - 7x + 12$, find $f(-5)$. _____
2) Find the domain of the function $f(x) = \sqrt{x-3}$ _____	12) If $f(x) = (x-3)(x-4)$, find $f(12)$. _____
3) For what value of x is the function $y = \frac{17}{3-x}$ undefined? _____	13) Find the domain of the function $y = \sqrt{x+5}$. _____
4) What is the y-intercept of the graph of the function $y = \frac{13+2x}{x-7}$? _____	14) Find the domain of the function $y = \frac{1}{\sqrt{x+5}}$. _____
5) True or False? $-3^2 = -3^2 $ _____	15) For what values of x is the function $f(x) = \frac{x}{x^2-1}$ undefined? _____
6) Find the value of $4^{\frac{3}{2}}$ _____	16) At what point, besides the origin, do the graphs of $y = x^2$ and $y = x^3$ intersect? _____
7) True or False? $25^{-\frac{1}{2}} = -5$ _____	17) True or False? If x is any Real number, then $\sqrt{x^2+25}$ is also a Real number. _____
8) Find the domain of the function $y = \sqrt{x}$ _____	18) Find $f(5)$ if $f(x) = x^2 - 8x + 15$ _____
9) Find the domain of the function $y = (x-7)^{\frac{3}{2}}$ _____	19) Find $f(5)$ if $f(x) = (x-3)(x-5)$ _____
10) Find the range of the function $y = 2^x$. _____	20) True or False? If $x = -3$, Then $\sqrt{x^2+7} = x-1 $ _____

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21) Find the domain of the function $f(x) = \frac{x^2 + 7}{x^2 + 25}$ _____	31) On what interval is the function $f(x) = \sqrt{9 - x^2}$ defined? _____
22) Find the domain of the function $f(x) = \frac{x^2 - 2}{x^2 - 25}$ _____	32) Find the x-intercept of the function $f(x) = \frac{x + 7}{x^2 - 6x + 8}$ _____
23) True or False? If $x \in \mathbf{R}$, then $x^2 + 25$ is always positive. _____	33) Find the slope of the line whose equation is $6x + 3y = 11$. _____
24) For what value of x is the function $f(x) = \frac{x^2 - 4}{x - 2}$ undefined? _____	34) Find the slope of the line that goes through (7, 2) and (-1, 0) _____
25) $\sin (7\pi/6) =$ _____	35) $\tan (3\pi/4) =$ _____
26) True or False? If $x > \pi/2$, then $\sin 12x > 1$. _____	36) Find the value of $(-8)^{\frac{1}{3}}$ _____
27) True or False? $y = -\sin x$ is a reflection of the sine graph about the x-axis. _____	37) Multiple Choice. What is the value of $-4^{\frac{1}{2}}$? A. -2 B. DNE C. 2 D. -1/2 _____
28) For what value of x is the function $f(x) = \frac{6x}{\sin x}$ undefined in the interval $[\pi/2, 3\pi/2]$? _____	38) True or False? Given that $y = 1/x$, if $x > 100, y < .01$ _____
29) Find the domain of the function $f(x) = \sqrt{9 - x^2}$ _____	39) Multiple Choice. How does the graph of $f(x) - 7$ compare to the graph of $f(x)$? A. slide 7 units up B. slide 7 units left C. slide 7 units down D. slide 7 units right _____
30) $\cos (3\pi/2) =$ _____	40) $\csc (2\pi/3) =$ _____

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41) $\sin(-3\pi/2)$ _____	51) If $f(x) = \frac{x^3 - x}{x^2 + 1}$, find $f(3)$. _____
42) Is the function $f(x) = 6x^2$ a one-to-one function? _____	52) Find $f(-3)$ for the function above. _____
43) Find the inverse of the function $f(x) = x^2 + 5$, where $x \geq 0$ _____	53) Is the function referred to above an even function, an odd function, or neither? _____
44) Find the domain of the function $y = \sqrt{\frac{x-5}{x-4}}$ _____	54) $\sec(2\pi/3)$ _____
45) Find the y-intercept of the graph of $y = e^x + 5$ _____	55) Find the vertical asymptote of the graph of the function $f(x) = \frac{3}{2^x - 1}$ _____
46) True or False? If f and g are nonzero functions, then $f(g(x)) = g(f(x))$. _____	56) Is the function $y = 2x^7 + 3x^5 - x + 2$ an even function, an odd function, or neither? _____
47) At how many points do the graphs of $y = 3x^3 + 1$ and $y = 3x^3 + 6$ intersect? _____	57) Is the above function one-to-one? _____
48) For what value of x between π and 3π is $y = \frac{5x}{\cos x - 1}$ undefined? _____	58) If the graph of $f(x) = x^2$ is shifted two units to the right to form $g(x)$, what would be the equation of $g(x)$? _____
49) Write the equation of the line with slope 7 that passes through the point $(6, -2)$. _____	59) Write the equation of the line through the point $(-9, 2)$ that is parallel to $2x - 5y = 16$ _____
50) Simplify: $\frac{(x^6)^4}{x^2}$ _____	60) Simplify: $(x - 2y)^2 - (xy^2 - y^2)$ _____

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61) $\sin(\pi/2)$ _____	71) $\tan(5\pi/4)$ _____
62) $\cos(3\pi/4)$ _____	72) $\cos(-\pi)$ _____
63) $\tan(-\pi/4)$ _____	73) $\csc(\pi)$ _____
64) $\sec(\pi/3)$ _____	74) $\sin(-5\pi/3)$ _____
65) Simplify: $\frac{(2x^2)^3}{x^{10}}$ _____	75) Does $y = x^3 - x $ have even or odd symmetry? _____
On # 66-69, Solve for x , when $0 \leq x < 2\pi$	On #76-78, solve for x when $0 \leq x < 2\pi$.
66) $\cos x = 0$ _____	76) $\sin x = \frac{\sqrt{2}}{2}$ _____
67) $\sin x = -1/2$ _____	77) $\cos x = \frac{\sqrt{3}}{2}$ _____
68) $\sec x = 2$ _____	78) $\csc x = -1$ _____
69) $\tan x = 1$ _____	79) What is the domain of $y = \tan x$? _____
70) Find the domain of $y = \frac{3x}{x^2 - 5x}$ _____	80) Write the equation of the line through $(9, -4)$ and $(-1, 5)$ _____