AP Calculus AB – Worksheet 8 Properties of Limits

Once we accept our limits, we go beyond them. – Albert Einstein

Evaluate the limit.

1) Plug it in!
2) Factor, then plug in.
3) Graph it or make a table.

1	$\lim_{x\to -3}(3x+2)$
2	$\lim_{x\to 1}(3x^3-2x^2+4)$
3	$\lim_{x\to 3}\dfrac{\sqrt{x-1}}{x-4}$
4	$\lim_{x\to 2}\cos\dfrac{\pi x}{3}$
5	$\lim_{x\to 1}\sin\dfrac{\pi x}{2}$
6	$\lim_{x\to 0}\sec 2x$
7	$\lim_{x\to 2}\dfrac{2-x}{x^2-4}$
8	$\lim_{x\to 4}\dfrac{x^2-5x+4}{x^2-2x-8}$
9	$\lim_{x\to 3}\dfrac{x^2-9}{x^3-27}$
10	$\lim_{x\to 3}\dfrac{\sqrt{x+1}-2}{x-3}$
11	$\lim_{x\to 0}\dfrac{\sin x}{5x}$
12	$\lim_{x\to 0}\dfrac{3(1-\cos x)}{x}$
13	If $\lim_{x\to c} f(x)=2$ and $\lim_{x\to c} g(x)=3$, evaluate each of the following: a) $\lim_{x\to c}[5g(x)]$ b) $\lim_{x\to c}[f(x)+g(x)]$ c) $\lim_{x\to c}[f(x)g(x)]$ d) $\lim_{x\to c}\dfrac{f(x)}{g(x)}$

Answers:

1) -7	2) 5	3) $-\sqrt{2}$	4) $-\frac{1}{2}$	5) 1	6) 1	7) $-\frac{1}{4}$
8) $\frac{1}{2}$	9) $\frac{2}{9}$	10) $\frac{1}{4}$	11) $\frac{1}{5}$	12) 0	13) a) 15 b) 5 c) 6 d) $\frac{2}{3}$	