Skill Builder: Topic 1.6 – Determining Limits Using Algebraic Manipulation Name _____

Directions: Beginning in the first cell, find the answer. Search for that answer elsewhere in the document, mark that cell #2 and work the problem in that box. Process in this manner until you complete the circuit. Show all pertinent work. Calculators may not be used

# 1 Answer: π $\lim_{x\to 5} 10$	# ____ Answer: 0 $\lim_{x\to 1} \dfrac{2x-2}{x-1}$
# ____ Answer: 12 If $f(x)=\begin{cases} x-1, & x\le 3 \\ 2x-3, & x>3 \end{cases}$, find $\lim_{x\to 3} f(x)$.	# ____ Answer: 2 $\lim_{s\to -1} \dfrac{s^2+6s+5}{s^2-3s-4}$
# ____ Answer: 8 $\lim_{x\to 5} (3x^2-4x-1)$	# ____ Answer: $\frac{1}{4}$ $\lim_{t\to -2} \dfrac{\frac{1}{2}+\frac{1}{t}}{2+t}$

____ Answer: -1

$$\lim_{x\to 0}\frac{\sqrt{x+4}-2}{x}$$

____ Answer: 10

$$\lim_{x\to 2} 4x$$

____ Answer: 54

$$\lim_{x\to -2}\frac{x^2+4x+4}{x^2}$$

____ Answer: DNE

If $f(x)=\begin{cases}\cos x-\sin\pi, & x\le\pi\\ x-\pi-1, & x>\pi\end{cases}$, find $\lim_{x\to\pi} f(x)$.

____ Answer: $\frac{-4}{5}$

$$\lim_{t\to -2}\frac{t^3+8}{t+2}$$

____ Answer: $\frac{-1}{4}$

$$\lim_{x\to 0}\pi$$