Circuit Training – Domain and Range (precal level) **Name _____**

Directions: Work this circuit *without* a calculator or computer! Beginning in cell #1, sketch a graph and/or use analytic techniques to determine the domain or range (as specified). Write your answer in interval notation. Search for your answer. Call that cell #2 and continue in this manner until you complete the circuit.

Answer: $(-\infty, 0]$ #__1__ $f(x) = \frac{x}{x-2}$ Domain	Answer: $[0, \infty)$ # _____ $f(x) = e^{x-2} + 2$ Range
Answer: $(-\infty, 2]$ # _____ $f(x) = \lvert x^2 - 4 \rvert + 3$ Range	Answer: $[-3, \infty)$ # _____ $K(w) = \frac{1}{w+3}$ Domain
Answer: $(-\infty, 0) \cup (0, \infty)$ # _____ $g(x) = \frac{-4x+1}{2x-3}$ Range	Answer: $(-\infty, 3]$ # _____ $h(x) = x^{\frac{2}{3}} - 2$ Range
Answer: $[-2, \infty)$ # _____ $f(x) = \frac{2x^2}{x^2-1}$ Range	Answer: $(-\infty\,, 2) \cup (2, \infty)$ # _____ $f(x) = \sqrt{x-2}$ Domain
Answer: $(-2, \infty)$ # _____ $f(t) = 2\cos t$ Range	Answer: $(-\infty, \infty)$ # _____ $f(x) = \frac{x^2-1}{x}$ Domain

Answer: $[2,\infty)$ #_____ $g(x)=\frac{2x}{x^2-4}$ Domain	Answer: $[-2,0]$ # _____ $x(t)=-5t^2+10t-3$ Range
Answer: $[2,3)\cup(3,\infty)$ # _____ $v(t)=3-t^2$ Range	Answer: $(-\infty,-2)\cup(-2,\infty)$ # _____ $f(x)=\begin{cases}\lvert x-2\rvert, x\le 3\\ 5x^2, x>3\end{cases}$ Range
Answer: $[-2,2]$ # _____ $P(t)=e^{t^2}-4$ Range	Answer: $(2,\infty)$ # _____ $g(x)=\ln(x+2)$ Domain
Answer: $(-\infty,-2)\cup(-2,2)\cup(2,\infty)$ # _____ $h(x)=\frac{x}{x^2+4}$ Domain	Answer: $[3,\infty)$ # _____ $g(x)=\sqrt{-x}$ Domain
Answer: $(-\infty,0]\cup(2,\infty)$ # _____ $g(\theta)=-1+\sin\theta$ Range	Answer: $(-\infty,-3)\cup(-3,\infty)$ # _____ $f(x)=\frac{\sqrt{x-2}}{x-3}$ Domain