After having read the chapter pencil in hand and done this REALITY CHECK,

i. What would you say the idea of the chapter is:

ii. What questions do you have:

•

•
**Rck 7-1.** Given the function $f$ specified by the global input-output rule

$$x \xrightarrow{f} f(x) = (+71.38)x^0$$

what is Local graph $f |_{\text{near } \infty}$

**Your Work:**

i. You must make your case for whatever statement you are making.

ii. Circle which of the following choices corresponds to your result.

a. 

b. 

c. 

d. 

e. None of the preceding

iii. Check the corresponding box in the **Response Grid** on the front page thus: 

**Rck 7-2.** Given the function $f$ specified by the global input-output rule

$$x \xrightarrow{f} f(x) = (-6.36)x^0$$

what is Local graph $f |_{\text{near } 0}$

**Your Work:**

i. You must make your case for whatever statement you are making.
ii. Circle which of the following choices corresponds to your result.

![Choice A](image1.png) ![Choice B](image2.png) ![Choice C](image3.png) ![Choice D](image4.png) ![None of the preceding](image5.png)

e. None of the preceding

iii. Check the corresponding box in the Response Grid on the front page thus: ☒

**Rck 7-3.** Given the function $f$ specified by the global input-output rule

$$x \xrightarrow{f} f(x) = (-83.29)x + 1$$

what is Local graph $f \mid_{\text{near } \infty}$

**Your Work:**

i. You must make your case for whatever statement you are making.

ii. Circle which of the following choices corresponds to your result.
Rck 7-4. Let \( f \) be the function specified by the global input-output rule
\[
x \xrightarrow{f} f(x) = (+29.73)x^1
\]
what is Local graph \( f \mid_{\text{near } 0} 

Your Work:

i. You must make your case for whatever statement you are making.

ii. Circle which of the following choices corresponds to your result.

iii. Check the corresponding box in the Response Grid on the front page thus: \( \Box \)
Rck 7-5. Let \( f \) be the function specified by the global input-output rule
\[ x \xrightarrow{f} f(x) = (-10.63)x^{-1} \]
Find the local graph of \( f \) near \( \infty \)

**Your Work:**

i. You must make your case for whatever statement you are making.

ii. Circle which of the following choices corresponds to your result.

\[ \text{Output Ruler} \]
\[ \text{Input Ruler} \]
\[ +\infty \]
\[ -\infty \]
\[ \text{Screen} \]
\[ \text{Offscreen} \]

\[ 0 \]

\[ a. \]
\[ b. \]
\[ c. \]
\[ d. \]
\[ e. \text{None of the preceding} \]

iii. Check the corresponding box in the **Response Grid** on the front page thus: \( \blacksquare \)

Rck 7-6. Given the function \( f \) specified by the global input-output rule
\[ x \xrightarrow{f} f(x) = (+42.72)x^{-1} \]
what is Local graph\( f \big|_{\text{near } 0} \)

**Your Work:**

i. You must make your case for whatever statement you are making.
ii. Circle which of the following choices corresponds to your result.

e. None of the preceding

iii. Check the corresponding box in the Response Grid on the front page thus: ☒

Rck 7-7. Given the function $f$ specified by the global input-output rule

$$x \quad \overset{f}{\longrightarrow} \quad f(x) = (-63.41)x^0$$

what is Slope-sign $f \bigg|_{\text{near } 0}$

Your Work:

i. You must make your case for whatever statement you are making.

ii. Circle which of the following choices corresponds to your result.
a. Slope-sign \( f \big|_{\text{near } 0} = (\searrow, \searrow) \)  
\hspace{1cm} b. Slope-sign \( f \big|_{\text{near } 0} = (\nearrow, \searrow) \)

\hspace{1cm} c. Slope-sign \( f \big|_{\text{near } 0} = (\nearrow, \nearrow) \)  
\hspace{1cm} d. Slope-sign \( f \big|_{\text{near } 0} = (\searrow, \searrow) \)

\hspace{1cm} e. None of the preceding

\hspace{1cm} iii. Check the corresponding box in the **Response Grid** on the front page thus: [X].

\textit{Rec 7-8.} Given the function \( f \) specified by the global input-output rule  
\[ x \xrightarrow{f} f(x) = (-32.78)x^1 \]
what is Slope-sign \( f \big|_{\text{near } \infty} \)

\textbf{Your Work:}
\hspace{1cm} i. You must make your case for whatever statement you are making.

\hspace{1cm} ii. Circle which of the following choices corresponds to your result.

\hspace{1cm} a. Slope-sign \( f \big|_{\text{near } \infty} = (\searrow, \searrow) \)  
\hspace{1cm} b. Slope-sign \( f \big|_{\text{near } \infty} = (\searrow, \searrow) \)

\hspace{1cm} c. Slope-sign \( f \big|_{\text{near } \infty} = (\searrow, \searrow) \)  
\hspace{1cm} d. Slope-sign \( f \big|_{\text{near } \infty} = (\searrow, \searrow) \)

\hspace{1cm} e. None of the preceding

\hspace{1cm} iii. Check the corresponding box in the **Response Grid** on the front page thus: [X].

\textit{Rec 7-9.} Given the function \( f \) specified by the global input-output rule  
\[ x \xrightarrow{f} f(x) = (-54.18)x^{-1} \]
what is Slope-sign \( f \big|_{\text{near } \infty} \)

\textbf{Your Work:}
\hspace{1cm} i. You must make your case for whatever statement you are making.
ii. Circle which of the following choices corresponds to your result.

a. Slope-sign $f \mid_{\text{near } \infty} = (\nearrow, \nearrow)$  
b. Slope-sign $f \mid_{\text{near } \infty} = (\nwarrow, \nwarrow)$  
c. Slope-sign $f \mid_{\text{near } \infty} = (\searrow, \nearrow)$  
d. Slope-sign $f \mid_{\text{near } \infty} = (\searrow, \nwarrow)$  
e. None of the preceding

iii. Check the corresponding box in the Response Grid on the front page thus: $\square$

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**Rck 7-10.** Given that a *power function* $f$ is such that Height-size $f \mid_{\text{near } 0} = (\text{small, small})$, which of the following *must* be features of its global input-output rule:

- M The exponent must be positive
- N The exponent must be negative
- P The exponent must be even
- Q The exponent must be odd
- R The coefficient must be positive
- S The coefficient must be negative
- T Cannot be

**Your Work:**

i. You must make your case for whatever statement you are making.

ii. Circle which of the following choices corresponds to your result.
a. N, P  

b. M, Q  
c. P  
d. T  
e. None of the preceding

iii. Check the corresponding box in the \textbf{Response Grid} on the front page thus: \textbf{X}.

\begin{itemize}
\item [\textit{Rck 7-11.}] Given that the \textit{power} function \(TAB\) is such that \(\text{Slope-sign}_{TAB}|_{\text{near } \infty} = (\backslash, /)\), which of the following \textit{must} be features of its global input-output rule:
\begin{align*}
M & \text{ The exponent must be positive} & N & \text{ The exponent must be negative} \\
P & \text{ The exponent must be even} & Q & \text{ The exponent must be odd} \\
R & \text{ The coefficient must be positive} & S & \text{ The coefficient must be negative} \\
T & \text{ Cannot be} & & \\
\end{align*}
\end{itemize}

\textbf{Your Work:}

i. You must make your case for whatever statement you are making.

\begin{itemize}
\item \begin{tabular}{|c|c|c|c|c|}
\hline
\textbf{M} & \textbf{N} & \textbf{P} & \textbf{S} & \textbf{T} \\
\hline
\end{tabular}
\item ii. Circle which of the following choices corresponds to your result.
\begin{itemize}
\item a. M  
\item b. N  
\item c. N, P, S  
\item d. P  
\item e. None of the preceding
\end{itemize}
\end{itemize}

\begin{itemize}
\item [\textit{Rck 7-12.}] Given that a \textit{power} function \(f\) is such that \(\text{Concavity-sign}_{f}|_{\text{near } 0} = (\cup, \cap)\).

Which one(s) of the following, if any, \textit{must} be features of the global input-output rule that specifies \(f\)

\begin{align*}
M & \text{ The exponent must be positive} & N & \text{ The exponent must be negative} \\
P & \text{ The exponent must be even} & Q & \text{ The exponent must be odd} \\
\end{align*}
\end{itemize}

\textbf{Your Work:}

\begin{itemize}
\item \begin{tabular}{|c|c|c|c|c|}
\hline
\textbf{M} & \textbf{N} & \textbf{P} & \textbf{S} & \textbf{T} \\
\hline
\end{tabular}
\item iii. Check the corresponding box in the \textbf{Response Grid} on the front page thus: \textbf{X}.
\end{itemize}
Your Work:

i. You must make your case for whatever statement you are making.

ii. Circle which of the following choices corresponds to your result.

a. Q   b. N   c. Q, R   d. N, S   e. None of the preceding

iii. Check the corresponding box in the Response Grid on the front page thus: X