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

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

<table>
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<tr>
<th>Question</th>
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ii. What questions do you have:

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•
Rck 16-1. Given the function $MENIE$ whose global input-output rule is
\[
x \xrightarrow{MENIE} MENIE(x) = \frac{x^3 - 16}{x}
\]
find the approximate local input-output rule of $MENIE$ near $\infty$ for concavity-sign.

**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. $x \xrightarrow{MENIE_\infty} MENIE_\infty(x) = +x^3 - 16 + [...]$
   
   b. $x \xrightarrow{MENIE_\infty} MENIE_\infty(x) = +x^2 + [...]$
   
   c. $x \xrightarrow{MENIE_\infty} MENIE_\infty(x) = +x^2 + \frac{16}{x} + [...]$
   
   d. $x \xrightarrow{MENIE_\infty} MENIE_\infty(x) = +x^3 + [...]$
   
   e. None of the preceding

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

Rck 16-2. Given the function $f$ specified by the global input-output rule
\[
x \xrightarrow{f} f(x) = \frac{-6x^2 - 3x + 8}{-2x^5 - 5x^4 + x^3}
\]
find the approximate local input-output rule of $f$ near $\infty$ for concavity-sign.

**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. \( x \xrightarrow{\infty} f_{\infty}(x) = -3x^{-3} + [...] \)
b. \( x \xrightarrow{\infty} f_{\infty}(x) = +3x^{-3} + [...] \)
c. \( x \xrightarrow{\infty} f_{\infty}(x) = -\frac{1}{3}x^3 + [...] \)
d. \( x \xrightarrow{\infty} f_{\infty}(x) = +\frac{1}{3}x^3 + [...] \)

e. None of the preceding

iii. Check the corresponding box in the Response Grid on the front page thus: \[ \checkmark \]

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**Rck 16-3.** Given the function \( NANA \) specified by the global input-output rule

\[
x \xrightarrow{NANA} NANA(x) = \frac{x^2 - 4}{(x - 3)^2}
\]

find the approximate local input-output rule of \( NANA \) near \( \infty \) for concavity-sign

**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.
Rok 16-4. Given the function $f$ whose global input-output rule is

$$x \xrightarrow{f} f(x) = \frac{-3x^3 - 8x^2 - 8x - 13}{-3x^2 + x - 5}$$

find the approximate local input-output rule near $\infty$ for concavity-sign.

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. $+x + [...]$
- b. $x + 3 + 2x^{-1} + [...]$
- c. $x - 3 - 2x^{-1} + [...]$
- d. $+x + 3 + [...]$
- e. None of the preceding

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

Rok 16-5. Given the function $MENIE$ whose global input-output rule is

$$x \xrightarrow{MENIE} MENIE(x) = \frac{x^3 - 16}{x}$$

find the local graph of $MENIE$ 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.

![Diagram choices a-d]

e. None of the preceding

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

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**Recall 16-6.** Given the function $JEAN$ whose global input-output rule is

$$x \xrightarrow{JEAN} JEAN(x) = \frac{x}{x^3 + 8}$$

find the local graph of $JEAN$ near $\infty$.

**Your Work:**

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

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

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

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

a. a  b. b  c. c  d. d  

e. None of the preceding

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