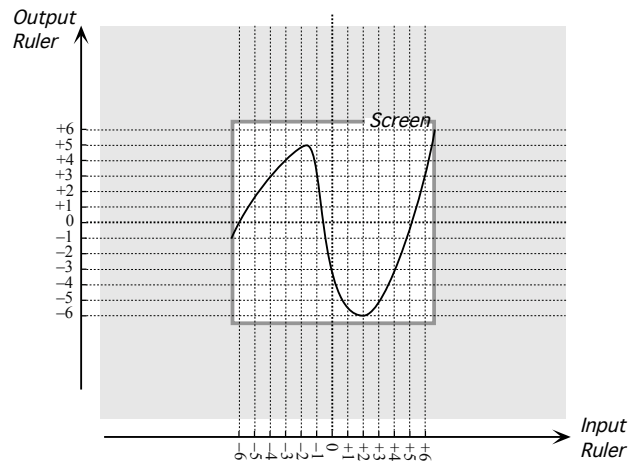


## MATH 161 REVIEW I Questions

Copyright ©2009 by A. Schremmer under a GNU Free Documentation License.

[ Run: 09/13/2011 at 15:55 Seed: 4574. Order of Checkable Items: List.]

**I-1.** Given the function  $f$  whose *quantitative bounded graph* is



which input(s), if any, will give the output +3?

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

$$x \xrightarrow{f} f(x) = (-54.03)x^{+4}$$

find the local graph near  $\infty$

**I-3.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = (+12.87)x^{-5}$$

what is its local graph near  $\infty$

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

$$x \xrightarrow{f} f(x) = +83.17x^{+5}$$

find the *local graph* of  $f$  near 0?

**I-5.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = +13.06x^{-4}$$

find the *local graph* of  $f$  near 0?

**I-6.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = (-73.05)x^{+2}$$

find Height-sign  $f|_{\text{near } \infty}$

**I-7.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = (-18.22)x^{-6}$$

find Height-sign  $f|_{\text{near } 0}$

**I-8.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = (-29.73)x^{-4}$$

find Slope-sign  $f|_{\text{near } \infty}$

**I-9.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = (-42.27)x^{+4}$$

find Slope-sign  $f|_{\text{near } 0}$ .

**I-10.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = (-53.55)x^{-6}$$

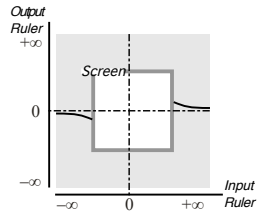
find Concavity-sign  $f|_{\text{near } \infty}$

**I-11.** Given the function  $f$  whose global input-output rule is

$$x \xrightarrow{f} f(x) = (-18.43)x^{+5}$$

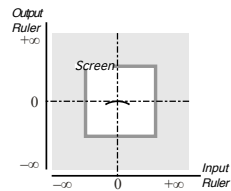
find Concavity-sign  $f$  near 0.

**I-12.** Given the *power* function  $f$  whose local graph near  $\infty$  is



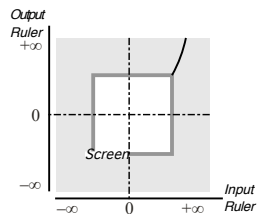
find its local graph near 0.

**I-13.** Given the *power* function  $f$  whose local graph near 0 is



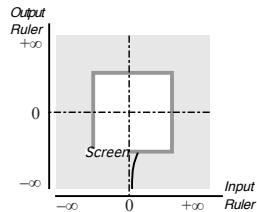
find its local graph near  $\infty$ .

**I-14.** Given the *power* function  $f$  whose local graph near  $+\infty$  is



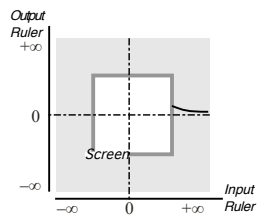
find its local graph near  $0^+$ .

**I-15.** Given the *power* function  $f$  whose local graph near  $0^+$  is



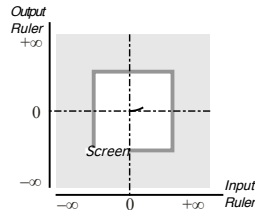
find its local graph near  $+\infty$ .

**I-16.** Given the *power* function  $f$  whose local graph near  $+\infty$  is



find its local graph near  $0^-$ .

**I-17.** Given the *power* function  $f$  whose local graph near  $0^+$  is



find its local graph near  $-\infty$ .

**I-18.** Given the function  $f$  whose global Input-Output rule is

$$x \xrightarrow{f} f(x) = (-35.73)x^{+1}$$

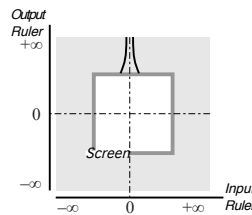
find its local graph near 0.

**I-19.** Given the function  $f$  whose global Input-Output rule is

$$x \xrightarrow{f} f(x) = (-32.28)x^{-1}$$

find its local graph near  $\infty$ .

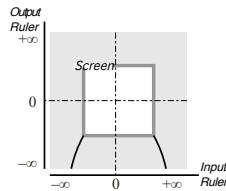
**I-20.** Given the *power* function  $f$  whose local graph near 0 is



which of the following *must* be features of its global input-ouput 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

**I-21.** Given the *power* function  $f$  whose local graph near  $\infty$  is



which of the following *must* be features of its global input-ouput 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

**I-22.** Given that the *power* function  $f$  is such that  $\text{Height-sign}f|_{\text{near } 0} = (\text{small}, \text{small})$ , which of the following *must* be a feature of its global input-ouput 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 Cannot be.

**I-23.** Given that the *power* function  $f$  is such that  $\text{Height-sign}f|_{\text{near } 0} = (-, +)$ , which of the following *must* be features of its global input-ouput 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

**I-24.** Given that the *power* function  $f$  is such that  $\text{Slope-sign}f|_{\text{near } \infty} = (\swarrow, \searrow)$ , which of the following *must* be features of its global input-ouput 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

**I-25.** Given that the *power* function  $f$  is such that  $\text{Concavity-sign}f|_{\text{near } \infty} = (\cup, \cap)$ , 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