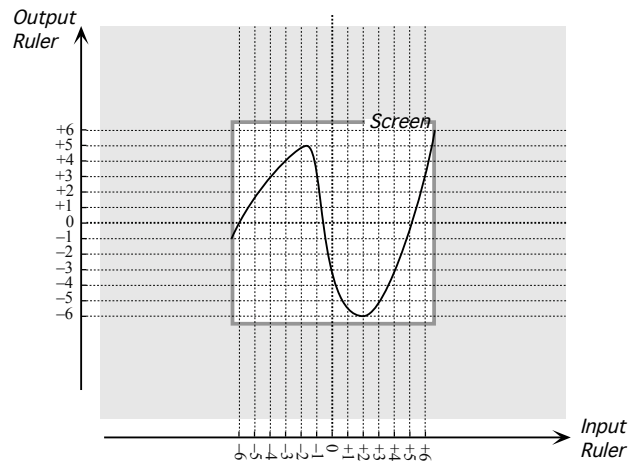


MATH 161 REVIEW I Questions

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[Run: 02/07/2014 at 20:7 Seed: 1478. Order of Checkable Items: List.]

I-1. Let f be the function specified by the *quantitative bounded graph*



For which input(s), if any, will f return the output $+3$?

I-2. Let f be the function specified by the global input-output rule

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

Find the local graph of f near ∞ .

I-3. Let f be the function specified by the global input-output rule

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

Find the local graph of f near ∞ .

I-4. Let f be the function specified by the global input-output rule

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

Find the local graph of f near 0 .

I-5. Let f be the function specified by the global input-output rule

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

Find the local graph of f near near 0.

- I-6.** Let f be the function specified by the global input-output rule

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

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

- I-7.** Let f be the function specified by the global input-output rule

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

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

- I-8.** Let f be the function specified by the global input-output rule

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

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

- I-9.** Let f be the function specified by the global input-output rule

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

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

- I-10.** Let f be the function specified by the global input-output rule

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

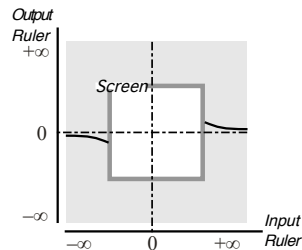
Find Concavity-sign $f|_{\text{near } \infty}$

- I-11.** Let f be the function specified by the global input-output rule

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

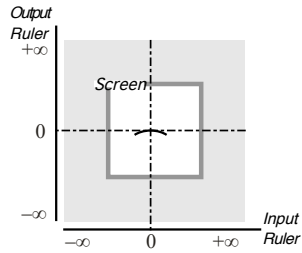
Find Concavity-sign $f|_{\text{near } 0}$

- I-12.** Let f be a *power* function whose local graph near ∞ is



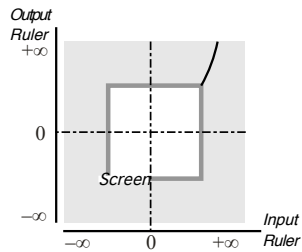
Find the local graph of f near 0.

- I-13.** Let f be a *power* function whose local graph near 0 is



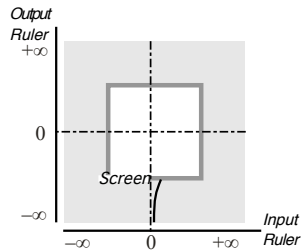
Find the local graph of f near ∞ .

I-14. Let f be a *power* function whose local graph near $+\infty$ is



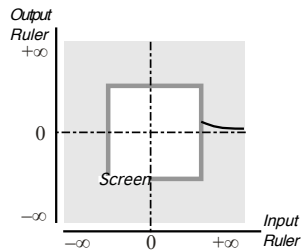
Find the local graph of f near 0^+ .

I-15. Let f be a *power* function whose local graph near 0^+ is



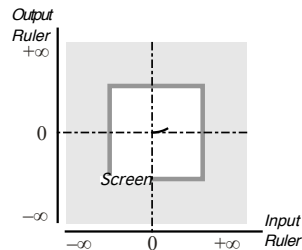
Find the local graph of f near $+\infty$.

I-16. Let f be a *power* function whose local graph near $+\infty$ is



Find the local graph of f near 0^- .

I-17. Let f be a *power* function whose local graph near 0^+ is



Find the local graph of f near $-\infty$.

I-18. Let f be the function specified by the global input-output rule

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

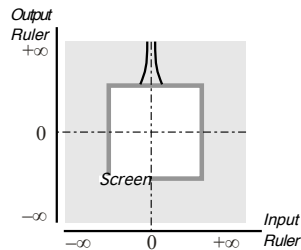
Find the local graph of f near 0.

I-19. Let f be the function specified by the global input-output rule

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

Find the local graph of f near ∞ .

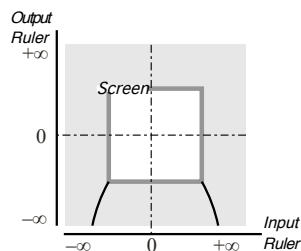
I-20. Let f be a *power* function whose local graph near 0 is



Which of the following, if any, *must* be features of the global input-output rule that specifies f

- | | |
|------------------------------------|------------------------------------|
| 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 | |

I-21. Let f be a *power* function whose local graph near ∞ is



Which of the following, if any, *must* be features of the global input-output rule that specifies f :

- | | |
|------------------------------------|------------------------------------|
| 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 | |

I-22. Let f be a *power* function such that Height-size $f|_{\text{near } 0} = (\text{small}, \text{small})$, which of the following *must* be a feature of the global input-output rule that specifies f :

- | | |
|------------------------------------|------------------------------------|
| 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 | |

I-23. Let f be a *power* function such that Height-sign $f|_{\text{near } 0} = (-, +)$, which of the following *must* be features of the global input-output rule that specifies f :

- | | |
|------------------------------------|------------------------------------|
| 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 | |

I-24. Let f be a *power* function such that Slope-sign $f|_{\text{near } \infty} = (\swarrow, \searrow)$.

Which of the following, if any, *must* be features of the global input-output rule of f

- | | |
|------------------------------------|------------------------------------|
| 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 | |

I-25. Let f be a *power* function such that Concavity-sign $f|_{\text{near } \infty} = (\cup, \cap)$. Which of the following, if any, *must* be a feature of the global input-output rule that specifies f :

- | | |
|------------------------------------|------------------------------------|
| 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 | |