MATH 161 REVIEW II Questions

[Run: 08/26/2010 at 10:14. Seed: 576. Order of Checkable Items: List.]

II-1. Given the *affine* function $HERB$ such that $HERB(-1) = +5$ and $HERB(+3) = +15$

$$\text{AND} \begin{cases} \text{Height } HERB\,|_{-1} = +5 \\ \text{Height } HERB\,|_{+3} = +15 \end{cases}$$

find Slope $HERB$, that is the slope of the global graph that speficifies $HERB$.

II-2. Given that the function $DONA$ is *affine* and given the *boundary value conditions*:

$$\text{AND} \begin{cases} DONA(x)|_{x \leftarrow +4} = -1 \\ DONA(x)|_{x \leftarrow -2} = +2 \end{cases}$$

find the *global input-output rule* that specifies $DONA$

II-3. Given the affine function $JADIH$ whose global rule is

$$x \xrightarrow{JADIH} JADIH(x) = -\frac{2}{3}x + 3$$

find its global graph.

II-4. Given the function $CRIC$ whose global input-output rule is

$$x \xrightarrow{CRIC} CRIC(x) = -3x - 12$$

find its 0-height input(s) if any.

II-5. Given the function $FILO$ whose global input-output rule is

$$x \xrightarrow{FILO} FILO(x) = +8x + 1$$

and the function $GREG$ whose global input-output rule is

$$x \xrightarrow{GREG} GREG(x) = +5x - 2$$

find the inputs, if any, for which $FILO(x) < GREG(x)$.

II-6. Given the function $MARC$ specified by the global input-output rule

$$x \xrightarrow{MARC} MARC(x) = +3x^2 + 6x - 17$$

find Slope-sign near ∞.

II-7. Given the function MAY specified by the global input-output rule

$$x \xrightarrow{MAYO} MAYO(x) = -2x^2 + 4x + 6$$

find Height-sign near ∞.

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

$$x \xrightarrow{RONI} RONI(x) = +3x^2 + 9x + 6$$

for which input(s), if any, is the output of f equal to 0?

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

$$x \xrightarrow{f} f(x) = -3x^2 + 7x - 6$$

where, if at all, is the output of f *negative*?

II-10. Given the function $TINA$ whose global input-output rule is

$$x \xrightarrow{TINA} TINA(x) = -2x^2 + 6x + 8$$

find $x_{\text{0-slope}}$.

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

$$x \xrightarrow{f} f(x) = -4x^2 + 8x + 12$$

near which input(s), if any, is the output of f *decreasing*?

II-12. Let f be the function specified by the global input-output rule

$$x \xrightarrow{f} f(x) = -26.06x^2 + 13.03x - 21.63$$

for which input(s), if any, is Concavity-sign $f = (\cup, \cup)$?

II-13. Let f be the function specified by the global input-output rule

$$x \xrightarrow{f} f(x) = +x^2 - 2x + 8$$

and let g be the function specified by the global input-output rule

$$x \xrightarrow{g} g(x) = -3x + 7$$

for how many input(s), if any, do the functions f and g return the same output?

II-14. Given the function $TITO$ whose global input-output rule is

$$x \xrightarrow{TITO} TITO(x) = +3x^2 + 9x + 6$$

what is the highest output(s), if any?.

II-15. Given the function f whose global input-output rule is

$$x \xrightarrow{f} f(x) = x^3 - 12x^2 + 45x + 10$$

what is Slope-sign f near $+3$?

II-16. Given the function f whose global input-output rule is

$$x \xrightarrow{f} f(x) = -2x^3 + 12x^2 + 8x - 7$$

what is Concavity-sign f near $+3$?

II-17. Given the function f whose global input-output rule is

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

where is the output equal to 0?

II-18. Given the function f whose global input-output rule is

$$x \xrightarrow{f} f(x) = -(x-1)(x-2)(x-3)$$

where is the output of f *negative*?

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

$$x \xrightarrow{f} f(x) = +2x^3 + x^2 + 10x + 7$$

where is the slope of f equal to 0?.

II-20. Given the function f specified by the global input-output rule

$$x \xrightarrow{f} f(x) = +x^3 - 9x^2 + 15x - 11$$

where is f *concave up*?