

Pre-Calculus

Midterm Exam Review MR 3

Assg.# _____

Name _____ Date _____ Per _____

Show all the work clearly on BACK! [number questions.]

ANSWERS:

(9-11) Solve for x (over the real numbers)

9) $x^2 + 3x - 4 = 14$

10) $\frac{x^4 - 1}{x^3} = 0$

11) $(x - 5)^2 = 9$

(12-15) Write an equation for the line:

12) with slope -2, containing the point (3,4) in slope intercept form.

13) Perpendicular to the line in problem 12, containing the point (4,3) in standard form.

14) Parallel to the line in problem 12, containing the point (-2, -5) in point-slope form.

15) In standard form for the line passing through (-2,6) and (8, -9).

16) Find any VA, HA, or SA for the function $f(x) = \frac{5x^3 - 2x^2 + 5x - 3}{x^2 + 2x - 15}$

17) Find the intervals when this function is increasing and/or decreasing:
 $f(x) = 3(x - 3)^2 - 10$

18) Solve over the Real Numbers: $\sqrt{x - 11} = x + 5$

19) Given: $f(x) = x^2 - 3$ and $g(x) = \frac{x+6}{x}$ find $(g \circ f)(6)$

20) Use the Remainder and factor theorems to find all the zeros of:
 $f(x) = x^4 - 6x^2 - 8x + 24$

21) Express $x^{\frac{4}{5}}y^{\frac{1}{2}}$ using radicals.

22) Given $f(x) = 3x^6$, find its inverse.

23) Given $g(x) = \frac{x^2+5}{3x}$, find $g(p + 4)$

24) Determine the end behavior for $f(x) = -x^3 + 3 - 5x^5$

25) Determine the domain and range over the Real Numbers for: $y = \sqrt{x^2 - 4}$

9)
10)
11)
12)
13)
14)
15)
16) VA: _____ HA: _____ SA: _____
17) Dec.: _____ Inc.: _____
18)
19)
20)
21)
22)
23)
24)
25) Domain: _____ Range: _____