

Answer Key

Math 1051 Fall 2000 Final Exam

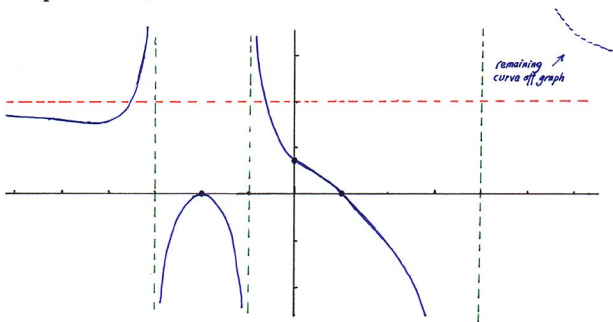
Multiple Choice Problems

1. B
2. C
3. B
4. E
5. C
6. E
7. C
8. B
9. D
10. E
11. B
12. A
13. E
14. C
15. A

Written Answer Problems

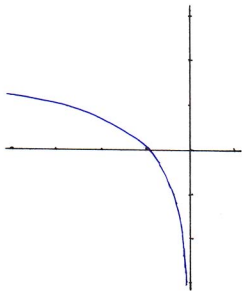
16. 30,000 square feet
17. $y = (\frac{1}{2})x + (7/2)$
18. domain of $f^{-1}(x)$: all reals except $x = 1/2$
range of $f^{-1}(x)$: all reals except $x = -1/2$
 $f^{-1}(x) = (x+1)/(1-2x)$
19.
 - a) domain: all reals except $x = -3, -1,$ and 4
 - b) x-intercepts: $(-2, 0), (1, 0)$;
y-intercept: $(0, 2/3)$
 - c) vertical asymptotes: $x = -3, x = -1, x = 4$
 - d) $R(x) > 0$ for $(-\infty, -3), (-1, 1), (4, \infty)$;
 $R(x) < 0$ for $(-3, -2), (-2, -1), (1, 4)$
 - e) see below
20. see below for graphs
21. $10 \ln(10^9) \approx 207$ years

Graph for 19(e):

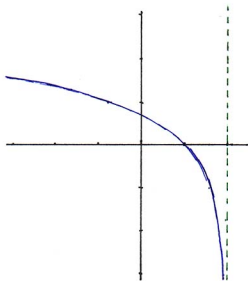


Graphs for 20:

(a) $y = \ln(-x)$



(b) $y = \ln(2 - x)$



(c) $y = -\ln(2 - x)$

