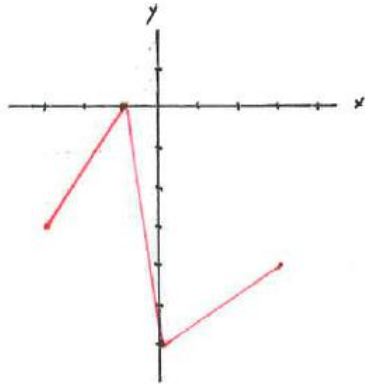
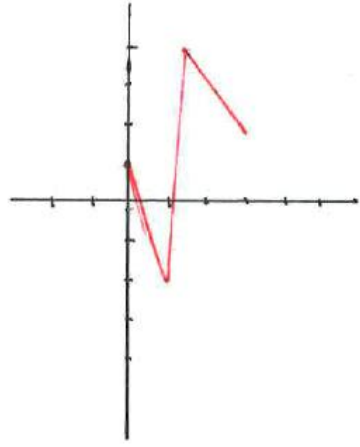


1.
 - a. 10
 - b. 16
 - c. $\frac{1}{3}$
 - d. 3
 - e. 3
 - f. 9
2. \$2360.04
3. $f^{-1}(x) = \sqrt[3]{x+6} - 4$
4. $x = 14.3919$
5. $x = -.29327$
6. $\ln\left(\frac{(2x)^{\frac{1}{5}}y^2}{z^4}\right)$
7. $y = 39 + 13 \log x$
8. $x = 2$ ($x = -4$ is extraneous)
9. domain: $(-\infty, -4) \cup (8, \infty)$
10. About 9.12 years
11. $x = 2$ ($x = -2$ is extraneous)
12. ≈ 5.23
13. *about 8,176 years old*
14. $k \approx -.34$
15. About 17 minutes
16. $x = -2.779$
17.
 - a. $k \approx .0303$
 - b. About 1.54 billion
18. Around 14 years
19.
 - a. 11 mg/L
 - b. 2.94 hours
20. (one next page)

20. a.



b.



c.

