L.73

1. (a) $g(x) = \sqrt[3]{x+1}$
   (b) check in calculator
   (c) $f'(x) = 3x^2$ $\quad g'(x) = \frac{1}{3}(x+1)^{-\frac{2}{3}}$
   (d) $f'(1) = 3$ $\quad g'(0) = \frac{1}{3}$
   (e) reciprocals
2. (a) not possible
   (b) 3/4
   (c) 5
   (d) not possible
   (e) 1/2
3. $(f^{-1})'(3) = \frac{1}{4}$
4. $(f^{-1})'(2) = \frac{1}{5}$
5. $(f^{-1})'(6) = \frac{1}{13}$
6. $g'(5) = \frac{-3}{2}$
7. $g'(2) = \frac{1}{11}$
8. $g'(1) = 1$
9. let $u = 1 - x$
   $du = -1\,dx$
   $y = -4\ln|1-x| + 2$
10. (a) $\ln|x+4| + C$
    (b) $-\frac{1}{2(x^2+4)} + C$
    (c) $\frac{1}{2}\ln|x^2+4| + C$
    (d) $\frac{(\ln x)^2}{2} + C$