(b) $g(x) = x - \frac{x^5 - 7}{x^2}$

$g'(x) = 1 - \frac{5x^4 \cdot x^2 - 2x(x^5 - 7)}{x^4}$

$g'(7^{\frac{1}{5}}) = 1 - \frac{5 \cdot 7^{\frac{6}{5}}}{7^{\frac{4}{5}}} = 1 - 5 \cdot 7^{\frac{2}{5}}$

$|g'(7^{\frac{1}{5}})| > 1$

not convergent

(c) Newton's method

(d) $g(x) = x - \frac{x^5 - 7}{12}$

$g'(x) = 1 - \frac{5x^4}{12}$

$|g'(7^{\frac{1}{5}})| = \left|1 - \frac{5 \cdot 7^{\frac{4}{5}}}{12}\right| = 0.9763$

converges slower than (c)

(c), (d)