MTH30 Homework Section 1.8

#48 $f(x) = (x-2)^3$

domain: $\mathbb{R}$ or $(-\infty, \infty)$
range: $\mathbb{R}$ or $(-\infty, \infty)$

a) $y = (x-2)^3$

+

c) $x = (y-2)^3$ - solve for y:

$\sqrt[3]{x} = y - 2$ (+2)

$\sqrt[3]{x} + 2 = y$

$y = \sqrt[3]{x} + 2$

domain: $\mathbb{R}$ or $(-\infty, \infty)$

range: $\mathbb{R}$ or $(-\infty, \infty)$

$f^{-1}(x) = \sqrt[3]{x} + 2$

b) $f(x) = (x-2)^3$ - graph of x^3 shifted horizontally 2 units right

$f^{-1}(x) = \sqrt[3]{x} + 2$ - graph of $\sqrt[3]{x}$ shifted vertically 2 units up.