

Pg 269 Exercise Set

$$(10) f(x) = \sqrt[3]{x-4} \quad g(x) = x^3 + 4$$

$$\bullet f[g(x)] = \sqrt[3]{x^3 + 4 - 4} = \sqrt[3]{x^3} = x$$

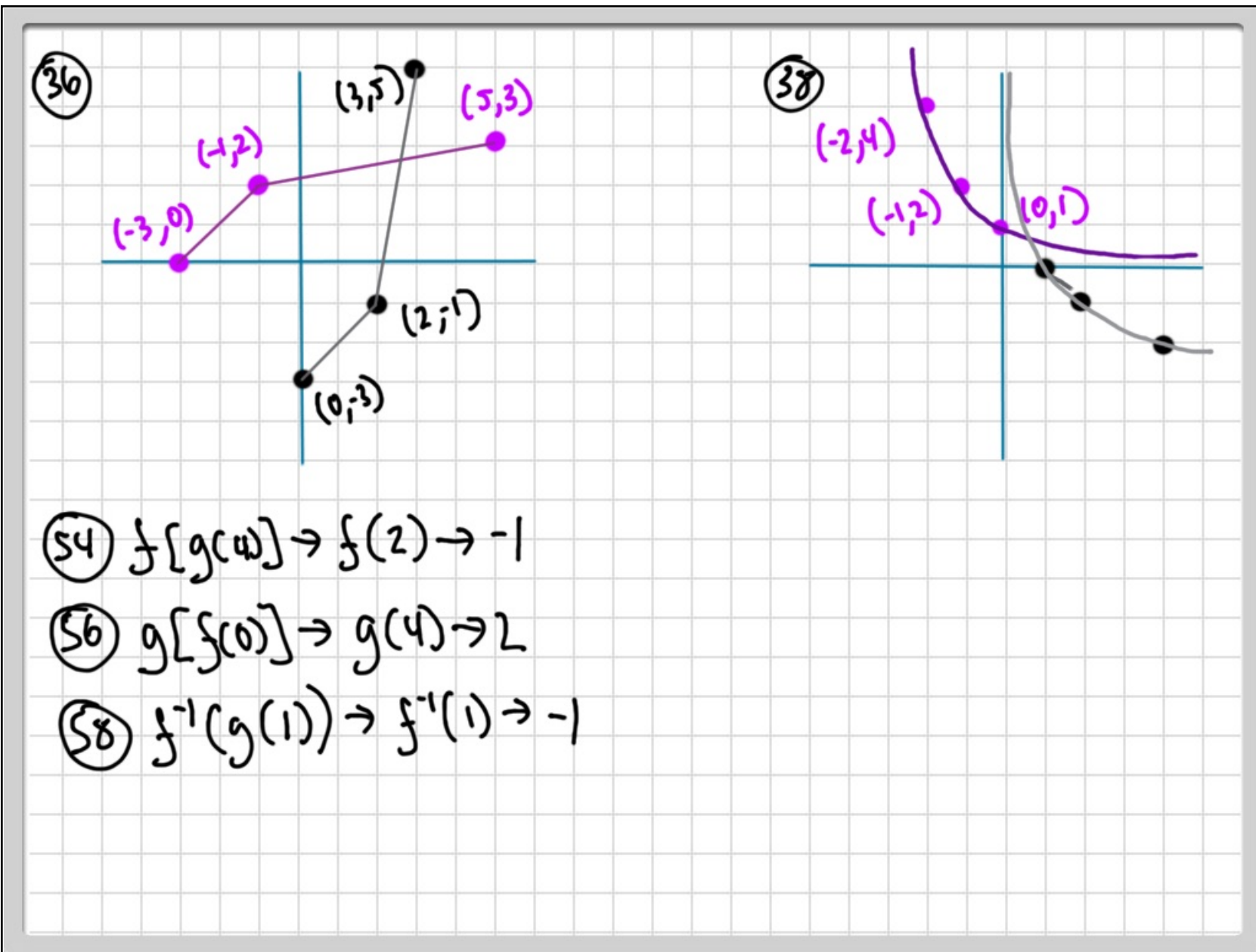
$$\bullet g[f(x)] = [\sqrt[3]{x-4}]^3 + 4 \rightarrow x - 4 + 4 = x$$

• $f(x)$ and $g(x)$ are inverses.

(30) Yes. passes horizontal line test.

(32) No. fails horizontal line test

(34) Yes. passes horizontal line test



$$\textcircled{60} (g \circ f)(0) \rightarrow g[f(0)] \rightarrow g[-5] \rightarrow 4(-5) - 1 = -21$$

$$\textcircled{62} g^{-1}(7) \rightarrow 7 = 4x - 1 \rightarrow x = 2$$

↳ (what is the "x" value that yields 7?)

$$\textcircled{64} f(g[h(1)]) \rightarrow f(g[4]) \rightarrow f(15) \rightarrow 25$$

$\textcircled{66}$ $g(x)$ as a set of order pairs

$$a. \{ (Zambia, -7.3) (Columbia, -4.5) (Poland, -2.8) (Italy, -2.8) (US, -1.9) \}$$

$$b. \{ (-7.3, Zambia) (-4.5, Columbia) (-2.8, Poland) (-2.8, Italy) (-1.9, US) \}$$

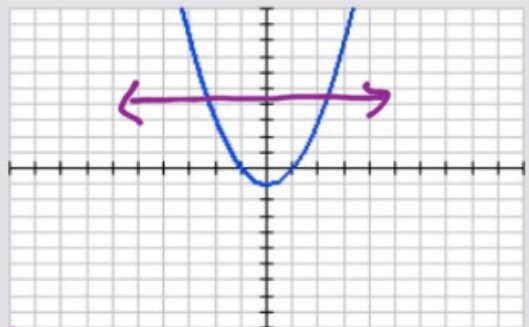
$g(x)$ is not one-to-one as the inverse is not a function

(68)^{A.} The inverse is not a function because the original graph fails the Horizontal Line Test.

B. $(12, 3)$ $(19, 3)$

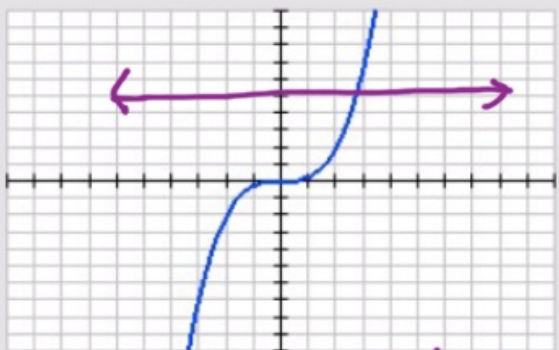
C. Not One-to-one as when the inverse is built, 3 will have two outputs \rightarrow 12 and 19.

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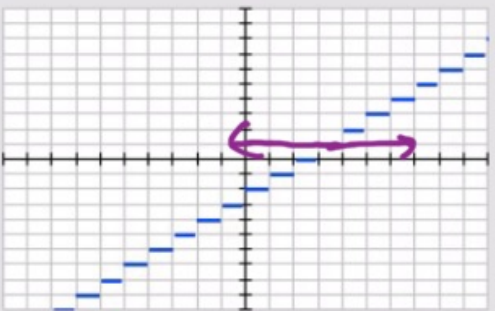
Not one-to-one; fails horizontal line test

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one-to-one; passes horizontal line test

80 NORMAL FLOAT AUTO REAL RADIAN MP



Not one-to-one; fails horizontal line test

82 NORMAL FLOAT AUTO REAL RADIAN MP



one-to-one; passes horizontal line test.

