

1. SEC 2.5 #147.  $f(x) = -\sqrt{x-2} + 2$

2. SEC 2.6 #25. FIND THE DOMAIN OF  $h(x) = \sqrt{x-2} + \sqrt{x+3}$

$D_h: x \geq 2 \text{ AND } x \geq -3$

$\therefore D_h = x \geq 2$

3. SEC 2.6 #60.  $f(x) = \sqrt{x}$ ,  $g(x) = x+2$

a.)  $(f \circ g)(x) = \sqrt{x+2}$

b.)  $(g \circ f)(x) = \sqrt{x} + 2$

c.)  $(f \circ g)(2) = f(4) = 2$

4. SEC 2.6 #77.  $h(x) = |2x-5|$

$g(x) = 2x-5$ , AND  $f(x) = |x|$   $\therefore h(x) = (f \circ g)(x)$

5. SEC 2.7 #17.  $f(x) = x^3 + 2$

$y = x^3 + 2$

$x = y^3 + 2$

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

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

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

$= x - 2 + 2$

$= x \checkmark$

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

$= \sqrt[3]{x^3}$

$= x \checkmark$

6. SEC 2.7 #36.

