

Name: ANSWER KEY

Score: _____

Let $f(x) = \sqrt{x-15}$ and $g(x) = x^2 + 2x$.

(4) Find (a) $(f \circ g)(x) = f(g(x)) = f(x^2 + 2x) = \boxed{\sqrt{x^2 + 2x - 15}}$

(6)(b) the domain of $f \circ g = \boxed{(-\infty, -5] \cup [3, \infty)}$

Domain of $g = \mathbb{R}$, so only requirement is that $x^2 + 2x - 15 \geq 0$

$$(x+5)(x-3) \geq 0$$

\therefore zeroes of $x^2 + 2x - 15$
are $-5, 3$

