- Let $g(x) = \sqrt{5x + 25}$ and $h(x) = x - 4$. Find $g \circ h$ and determine its domain.

$$(g \circ h)(x) = g(h(x)) = \sqrt{5(\underbrace{x-4}_{h(x)}) + 25}$$

So,

$$g(h(x)) = \sqrt{5x - 20 + 25} = \sqrt{5x + 5}$$

THE DOMAIN IS THE SET OF ALL REAL NUMBERS FOR WHICH $5x + 5 \geq 0$.

OR $5x \geq -5$

OR $x \geq -1$

DOMAIN IS $[-1, \infty)$