

Name _____

- You have 15 minutes
- No calculators
- Show sufficient work

1. (3 points) Suppose that $f(x) = \frac{1}{\sqrt{5-x}}$ and $g(x) = \sqrt{x-2}$. What is the domain of the composite function $(f \circ g)(x)$?

2. (3 points) Given that $f(x)$ is an even function and that $g(x) = (f(x) + 3)^5$, is $g(x)$ an odd function, an even function or neither? Give a clear justification for your answer.

3. (2 points) Evaluate the quantity $\sec(4\pi/3)$.

4. (2 points) Given an acute angle θ for which $\sin \theta = 1/4$, evaluate the following quantity.

$$\sin(\pi - \theta) + \sin \theta + \cos(\pi - \theta) + \cos \theta$$