

Name _____

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

1. (3 points) Given an acute angle θ for which $\tan(\theta) = 7$, evaluate the following quantities.

(a) $\sec(\theta)$

(b) $\cos(-\theta)$

(c) $\sin\left(\frac{3\pi}{2} + \theta\right)$

2. (4 points) Determine the domain of the given function.

$$f(x) = \frac{3 \sin(x - 5) + 4 \cos(x - 1)}{10 - \sqrt{100 - (x - 2)^2}}$$

3. (3 points) Suppose that $f(x)$ is an even function, $g(x)$ is an odd function, and the function $h(x)$ given below has a non-empty domain. Prove that $h(x)$ is an odd function.

$$h(x) = \frac{(f \circ g)(x)}{f(x)g(x)}$$