1. (4 points) Determine the domain of the given function.

\[ f(x) = \frac{\sqrt{25 - x^2} + \sqrt{9 + \sin(x - 1)}}{x^2 - 8x - 20} \]
2. (3 points) Given an acute angle \( \theta \) for which \( \sec(\theta) = 8 \), evaluate the following quantities.

(a) \( \cos(\theta) \)

(b) \( \sin(\theta) \)

(c) \( \cos(\pi + \theta) \)

3. (3 points) Suppose that \( f(x) \) is an odd function. If \( g(x) = x^4 \sin(f(x)) \), then is \( g(x) \) an odd function, an even function or neither? Give a very clear justification for your answer.