1. Calculate the composite function $f \circ g$ and determine the domain.

$$f(x) = \sqrt{x}, \qquad g(x) = 1 - x^3 \tag{1}$$

holds.

2. If $\tan(\theta) = \frac{3}{4}$, find the value of

$$\sin(2\theta) \qquad \textit{and} \qquad \csc(\theta) \tag{2}$$

hint: Draw a right triangle and use definition of trigonometric functions. For instance $\sin(2\theta) = 2\sin(\theta)\cos(\theta)$. Here, you only need to find values of $\sin(\theta)$ and $\cos(\theta)$.

3. Find the interval (intervals) at which the inequality

$$3 - |\frac{x-1}{2}| > -1 \tag{3}$$