1. **[4 parts, 1 point each]** Compute the indicated values of the given function; simplify as much as possible.

$$f(t) = \begin{cases} 1 & \text{if } t < -12 \\ 2t - 3 & \text{if } -12 \le t < 1 \\ t^{3/2} & \text{if } t \ge 1 \end{cases}$$

(a) $f(-20) =$

(b) $f(-12) =$

(c) $f(1/2) =$

(d) $f(4) =$

2. **[2 points]** Determine the domain of the given function.

$f(z) = \dfrac{z-2}{\sqrt{25 - z^2}}$

3. **[2 points]** Find the composite function $f(g(x))$. Simplify as much as possible.

$f(u) = (u-1)^3, \;\; g(x) = x^4 + 1$

4. **[2 points]** Find the difference quotient of f; namely, $\dfrac{f(x+h) - f(x)}{h}$. Simplify as much as possible.

$f(x) = x^2$