

CONTINUITY OF FUNCTIONS [SST 2.3]

EX 2.3.1: Let $f(x) = x^2$. Identify the set on which f is continuous.

EX 2.3.2: Let $g(t) = \frac{1}{1-t^2}$. Identify the set on which g is continuous.

EX 2.3.3: Let $h(y) = \begin{cases} y^2 + y - 1 & , y < 2 \\ 33 & , y = 2 \\ y^3 & , y > 2 \end{cases}$. Is h continuous at $y = 2$? (Justify answer)

EX 2.3.4: Evaluate $\lim_{\theta \rightarrow \pi/2} \cos(8\theta + \sin \theta)$

EX 2.3.5: Let $f(x) = x^5 - 2x^4 - 9x^3 + 22x^2 + 4x - 24$. Use I-V-T to establish that f has at least one root in the interval:
(a) $[-2, 0]$ (b) $[1, 3]$
