

Chapter 3 – examples

- (1) Something like 0, 1, 0, 1, 0, 1, 0, 1, ...
- (2) Something like 1, 2, 3, 4, 5, ...
- (3) Not possible due to Bolzano-Weierstrass
- (4) Something like 0, 1, 0, 2, 0, 3, 0, 4, 0, 5, 0, ...
- (5) Something like 0, 1, 0, 1, 0, 1, 0, 1, ...
- (6) Something with an asymptote at 1 or 2 or both, $\frac{1}{x-1}$
- (7) Something like $\sin(x)$, which hits its max at $\frac{\pi}{2}$ and min at $-\frac{\pi}{2}$.
- (8) Something like $f(x) = x$
- (9) Not possible due to IVT
- (10) Something like $\sin x$