

**HW §5.3 Numbers 2,4,8,10,16,18,20,26,30,34,40**

2.

- a.  $g(0) = 0, g(1) = 1/2, g(2) = 0, g(3) = -1/2, g(4) = 0, g(5) = 3/2, g(6) = 5.$
- b.  $g(7) = 7$
- c.  $g(7)$  is a maximum,  $g(3)$  a minimum.

4.

- a.  $g(-3) = 0, g(3) = 0.$
- b.  $g(-2) = 1, g(-1) = 7/2, g(0) = 5$
- c.  $[-3, 0]$
- d.  $x = 0$

8.  $\ln x$

10.  $\frac{1}{u+u^2}$

16.  $(\cos x + \sin \cos x)(-\sin x)$

18.  $-e^x \sin^3 e^x$

20. 42

26. Does not exist since  $x^{-5}$  is not continuous on  $[-2, 3]$

30. 2

34. Does not exist since  $\csc \theta \cot \theta$  is not continuous on  $[0, \pi/6]$

40.  $3/2 + \ln 2.$