MVE425 2015-02-13: Svar till uppgifterna.

1. (a) $pH = 10^{-5,6} \approx 2,5 \cdot 10^{-6}$ mol/l.
   (b) $\dfrac{\ln 2}{0,0325} \approx 21,3$ dygn.
   (c) $x = 9$

2. (a) $x = -\dfrac{\pi}{6} + n \cdot \dfrac{\pi}{3}, \quad n \in \mathbb{Z}$
   (b) $x = n \cdot \dfrac{2\pi}{3} = n \cdot 120^\circ$ eller $x = n \cdot \dfrac{2\pi}{7} = n \cdot \dfrac{360^\circ}{7}, \ n \in \mathbb{Z}$

3. $a = b = 4$

4. (a) $\dfrac{1}{2}$
   (b) $\dfrac{5}{3}$
   (c) $-\dfrac{5}{3}$

5. $\dfrac{\sqrt{6}}{2} + i\dfrac{\sqrt{2}}{2}, \quad \dfrac{-\sqrt{2}}{2} + i\dfrac{\sqrt{6}}{2}, \quad \dfrac{-\sqrt{6}}{2} - i\dfrac{\sqrt{2}}{2}, \quad \dfrac{\sqrt{2}}{2} - i\dfrac{\sqrt{6}}{2}$

6. $z = -\sqrt{2}i, \quad z = 2 \pm 3i$

7. Kombinera formlerna för $\cos(\alpha - \beta)$ och $\cos(\alpha + \beta)$ med $\alpha = 5v$ och $\beta = v$.

8. Se boken!