Homework Section 1.4 - Due 17th May

Give your answers exactly, that is, no approximations, no decimals, but square roots and fractions are okay.
If the question says use identities, you must use identities.

1. #26 on page 37.
2. #36 on page 37.
3. #62 on page 38.
4. #70 on page 38.
5. #88 on page 39.
6. If $0° < \theta < 90°$ and $\sin(\theta) = \frac{k}{2}$ for some constant k, compute the value of $\cos(\theta)$.
7. Simplify the following expression as much as possible:

$$(\sin\theta + \cos\theta)^2 - 1$$

   Warning: The above is an expression, not an equation.

*7 Suppose $\theta \in [0°, 360°)$, that is, θ is any angle between $0°$ and $360°$ but *not* $360°$ (hence the round bracket). For what value(s) of θ are the following functions not defined?

   (a) $\sec\theta$.
   (b) $\tan(2\theta)$.

*8 Suppose $0° < \theta < 90°$. What are the possible signs of:

   (a) $\cos(2\theta)$?
   (b) $\sin(2\theta)$?

   (Note: 0 is not a positive number.)

*Optional questions, not to be handed in.