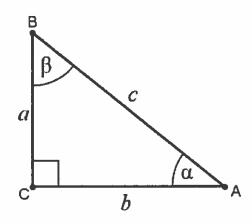NOTE: Show your work please.   /20

[2] 1. If $\beta = 30°$ and $c = \sqrt{2}$ what is the length of the sides a and b?

[8]   2. Convert the following and use scientific notation with 3 significant digits:

a)   5067 km/h, (m/s)

b)   38.04 m/s, (km/h)

c)   1000 µg, (g)

d)   0.0530 kg (mg)

[7]   3. When will the ball that was dropped from the height of 20 m reach the ground? What assumptions do you make?

[3]   4. Isolate for initial velocity from the kinematic formula $v_f^2 = v_i^2 + 2ad$