

## Solutions

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**2.1** The base angles agree, so  $(180-40)/2=70^\circ$ .

**2.2** The area proof gives  $c^2=3^2+4^2=25$ .

**2.3** Congruence makes them equal; a straight line sums to  $180^\circ$ .

**3.1** False. Equilateral triangles of sides 1 and 2 have equal  $60^\circ$  angles but different side lengths. They are similar, not congruent.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.