**<EFOFEX>
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FXGP:DP-KUMVDM5
FXData:
</EFOFEX><EFOFEX>
id:fxd{e56afa6e-2fe0-4704-95d1-d41b1553bab5}
FXGP:DP-KUMVDM5
FXData:
</EFOFEX>Summary:**

8 variations. Sin, cos and tan ratios. Pythagoras. Area of triangle.

**Question:**

a) The two triangles below have the same area. How large is angle CAD?

b) This time, the two triangles have the same PERIMETER. Again, how large is angle CAD?

**Solution:**

a)

The best way to start this question is make one of the sides a standard length. In this case the best way is to make AC = 1. The other sides then determined relative to this.

<EFOFEX>
id:fxe{6b641a56-1034-4e82-ab0e-1d8be501459c}
FXGP:DP-KUMVDM5
FXData:

</EFOFEX>

b)

In this question we use the same technique of setting the length of one side. In this case we need an extra side, z.

Using Pythagoras.

<EFOFEX>
id:fxe{92a35a84-e254-4995-8bd7-b6b0a802bc66}

FXData:

</EFOFEX>

Because the perimeters of the triangles are the same

<EFOFEX>
id:fxe{85acc91c-8f41-4d40-982b-d8a461094447}
FXGP:DP-KUMVDM5
FXData:

</EFOFEX>

<EFOFEX>
id:fxe{ba4c874f-2c36-4b7d-878e-b1da0a2e862c}
FXGP:DP-KUMVDM5
FXData:

</EFOFEX>

Therefore angle CAD is approximately <EFOFEX>
id:fxe{4e7cd034-a472-47a4-a047-253fa6a4b1df}
FXGP:DP-KUMVDM5
FXData:

</EFOFEX> degrees.