



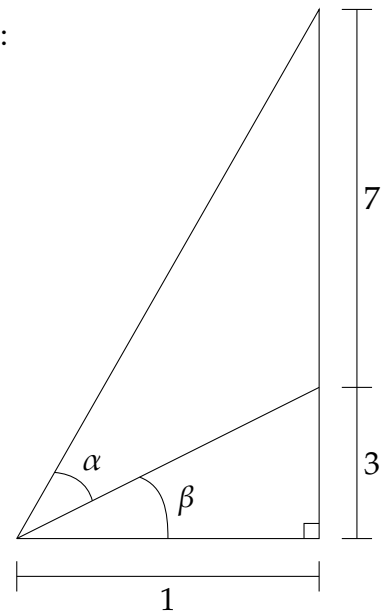
4. Verify the identity

$$\frac{\sin(4x) + \sin(2x)}{\cos(2x) - \cos(4x)} = \cot(x).$$

Hint: Use sum-to-product formulas.

5. Consult the picture and solve for the exact value of  $\alpha$ :

Hint: Observe that  $\tan(\alpha + \beta) = 10$ .



(Not drawn to scale.)