Challenge #18

If the pitch of Bertrand Russell's roof is $\frac{5}{12}$ and his house measures 24 m across the front and 40 m from front to back, how many square meters of roof will he have (assuming no overhang)?
Challenge #18 Solution

pitch = 5/12
House: 24 m across and 40 m deep.

use Pythagorean Thm:
\[5^2 + 12^2 = d^2\]
\[d = 13\]

roof:

\[A = 13 \times 40 \times 2 = 1040 \text{ m}^2\]