Task:

You're making a card house, setting each pair of cards the way that they make angle of 60 degrees between them. If you know the size of a playing card 90mm by 60mm, what is the separation between the floors in your card house?

Solution:

Each pair of cards make angle of 60 degrees between them, so card house built out of regular triangles and distance between the floors is the height of the triangle.

In regular triangle the height from any side is $h = \frac{\sqrt{3}}{2}a$ where a is the lengths of the sides of the equilateral triangle.

Assuming that a = 90 we have:

$$h = \frac{\sqrt{3}}{2}90 = 45 \cdot \sqrt{3} \approx 77.942(\text{mm})$$

Answer: 77.942 mm.