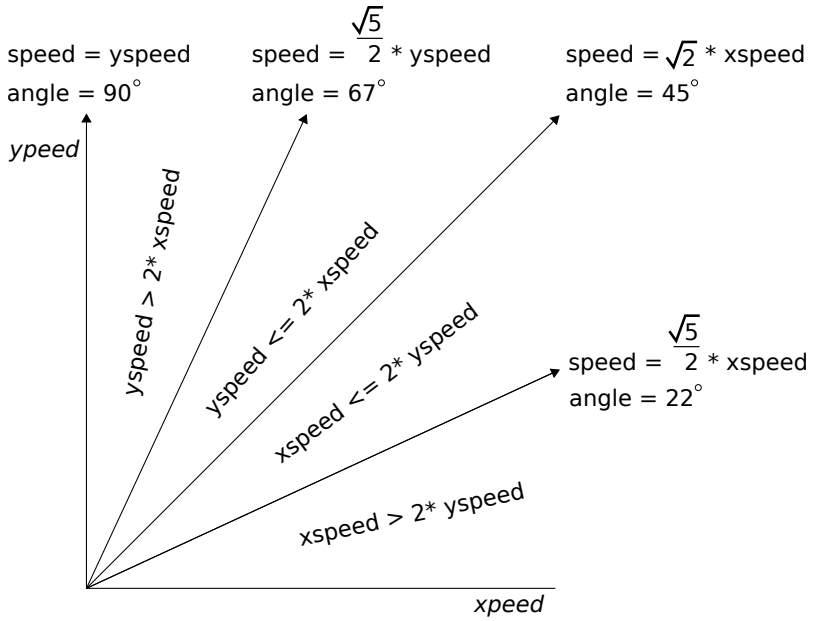
0.1 Tricks

This section describes random tricks used to speed up rendering.

0.1.1 Bouncing Flower Lookup

When Keen throws a flower it bounces of the walls. For flat walls and floors the bounce can be easily calculated by reversing either the x-speed (for vertical walls) or y-speed (for horizontal walls). It becomes more complicated for slopes. Making an accurate calculation of the bounce on a slope requires expensive `cos` and `sin` methods. This involves floating point calculations, which are expensive to use.

Instead, the game used a simple algorithm that approximates the angle to either 22°, 45° or 90°. Based on the ratio between the x- and y-speed it calculates the resulting speed and corresponding angle.



For each of the eight type of slopes (Figure **??**) and incoming angle combination, the corresponding bounce is defined using a simple lookup table.

Notice that the bounce is not always following the laws of physics.