

# Ratio of Angles

## ? The “Ratio of Angles”

The **ratio** between the *drilling angle* and the *VAL angle* gives insight into **how sharp or smooth** the ball’s motion will be.

**Ratio = Drilling Angle : VAL Angle**

## ? Higher Ratio (e.g., 70° : 30°)

- More length in the front part of the lane
- Sharper backend reaction
- Best for high-rev players or when lanes are dry

## ? Lower Ratio (e.g., 40° : 70°)

- Earlier, smoother roll
- More control on heavier oil or sport conditions
- Best for speed-dominant or lower-rev players

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## ? Example Layouts

Bowler Type	Example Layout	Ratio	Reaction Shape
Speed-Dominant	40° × 4" × 70°	1:1.75	Earlier, smoother reaction
Balanced (Tweener)	55° × 4½" × 40°	1.4:1	Benchmark shape
Rev-Dominant	70° × 5" × 30°	2.3:1	Length with sharp backend

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# ? Summary

Term	Controls	Lower Value	Higher Value
<b>Drilling Angle</b>	Skid phase	Earlier roll	Later roll
<b>VAL Angle</b>	Backend motion	Sharper	Smoother
<b>Ratio of Angles</b>	Overall shape	Smooth/control	Angular/strong

## ? In Short:

“ The **ratio of angles** defines how fast or slow your ball transitions from skid → hook → roll.

- **Higher ratio** = more angular shape
- **Lower ratio** = smoother, more controlled shape



Ratio of angl

- Used to control shape at breakpoint
- Drilling Angle > VAL Angle
  - More Lenght
  - Angular Finish
- Drilling Angle < VAL Angle
  - Less Lenght, more roll
  - Controllable ball motion
  - More Midlane

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