THE ART OF BALLS

AN ALTERNATIVE APPROACH TO POOL BILLIARDS

PART 4: ROCK & ROLL

YOU REMEMBER

We were talking about the two basic shot types in pool: Rolls and Slides.

Slide means the cue ball does not grip the cloth like when it's rolling. Its forward motion exceeds its forward rotation, at least until it crashes into the object ball.

Roll means the cue ball simply rolls over the cloth, like a marble rolling over a table. This is the shot we will deal with now.

Rolls have very unique properties we can make use of.

And speeds are a lot slower there. But how much?

sliding friction

rolling friction
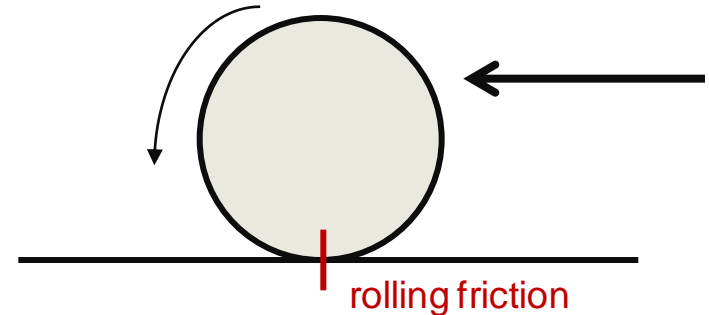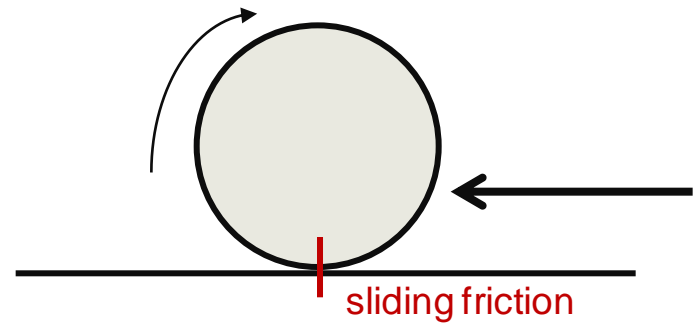
ROLLING SPEEDS

Again we need reference speeds when we're paying rolling cue balls.

Of course we could simply baby the ball and play incredibly slow. But that's not a reference.

Our reference speed be the maximum speed we can hit the cue ball with so the shot still behaves as roll.

Not as a slide, and not as something in between.

And probably not very surprising for you, there are natural tendencies int he body for this too.

IMPOSSIBLE ROLL

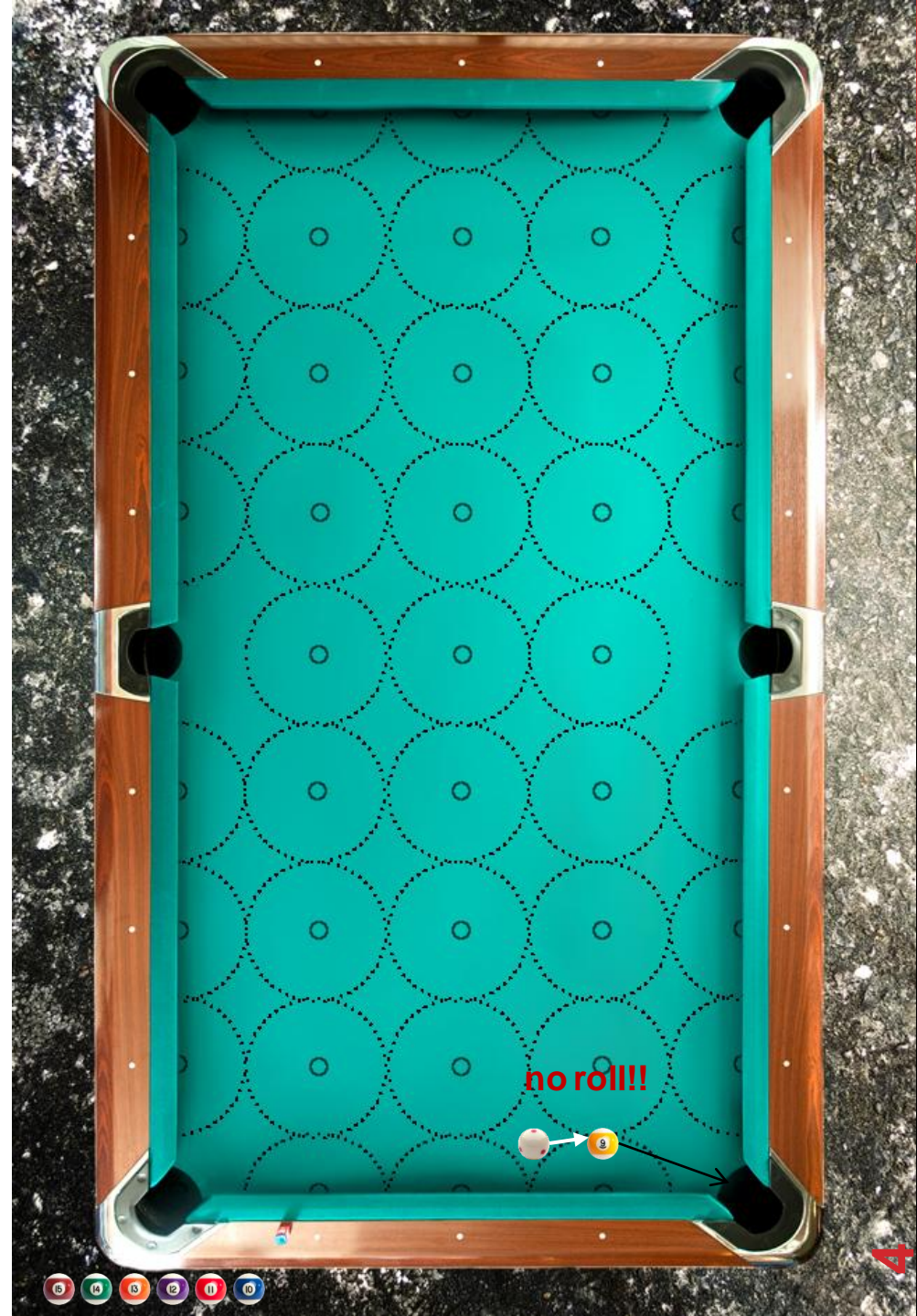**Let's get to the table.**

Since we're dealing with low speeds, we're playing this on one half of the table.

Let's do the impossible first. This shot cannot be played as a roll.

Why?

The cue ball is too close to the object ball. Half a diamond distance will result in a full blown slide.

Because when you hit the cue ball on the nose, it will fly off the first couple of inches.

no roll!!

IMPOSSIBLE ROLL 2

The roll at the bottom corner still won't roll. Three quarters of a diamond (9 inches) is **still too close**.

But you don't necessarily achieve a slide. You can check that with straight in shots.

The cue ball **at the right**, at half a diamond distance, will drop dead when played center ball, almost no matter how soft you hit it.

The cue ball **at the left**, when played soft (we didn't define how soft yet), **doesn't stop**. It trickles after the object ball just a little, so it will take its position. Some call this a **replacement shot**.

That's good to know for straight pool play, since this is the **easiest available replacement shot** there is on all the table. All you have to do is hit it center ball and soft.
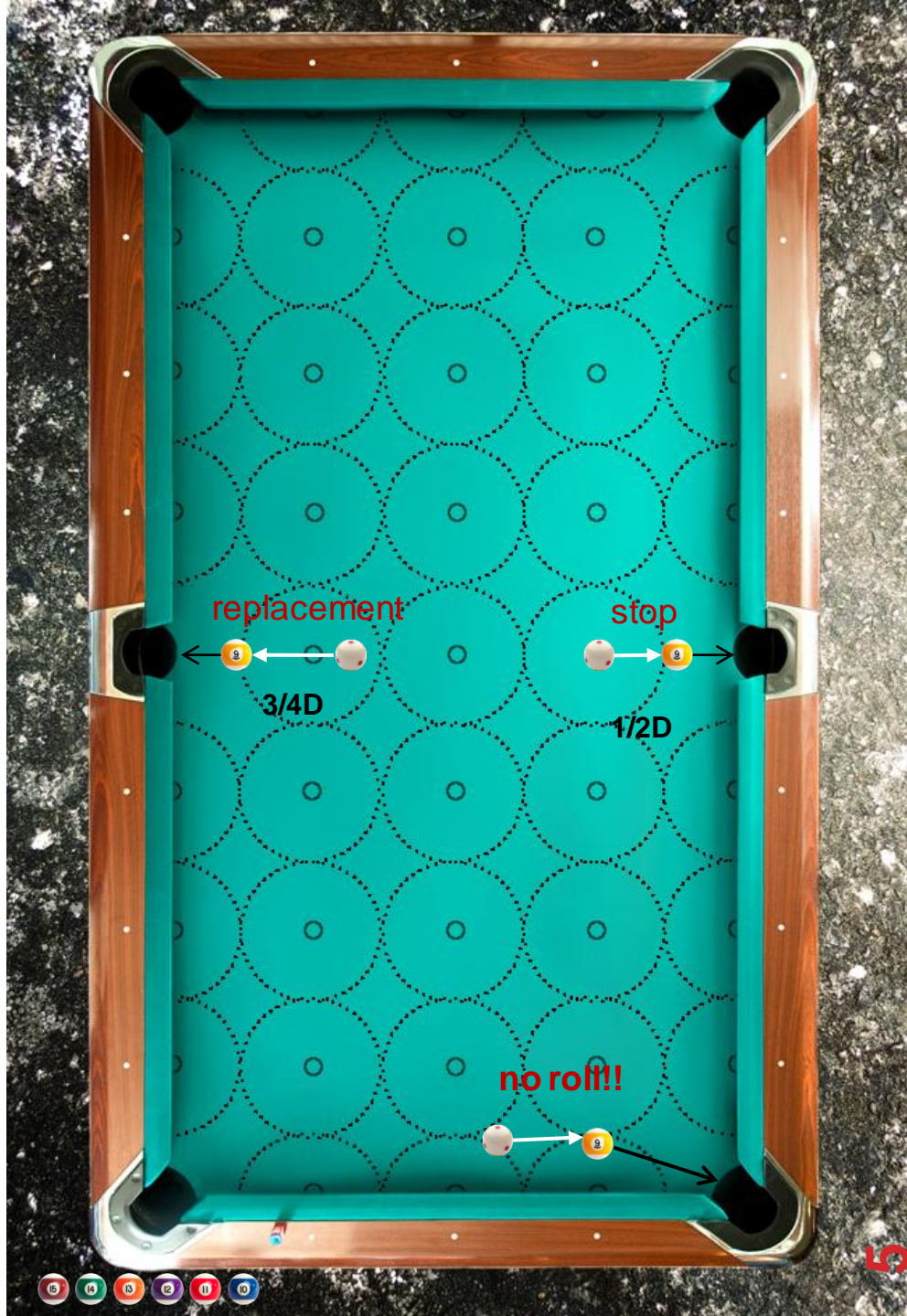
FINALLY ROLL

We need at least one diamond distance to achieve a roll.

So what speed do we need?

Position two balls like on the table at the right (as a half ball shot).

If the cue ball when coming out of the cushion runs towards the ten (3D across the table), then you got a roll.

If the cue ball runs towards the 11 (4D, i.e. 45 degrees across the table), then you got a slide.

You will probably notice that it's **not too easy to reach the ten with a roll with a cue ball that close.**

The reason is simple: The **volume you need to send the cue ball across the table** out from the cushion is so high that your shot **will turn into a slide** when you're only one diamond away from the object ball.

But still you can still **see its general direction** and check whether you got a roll or a slide. If you play with absolutely no side spin that is.
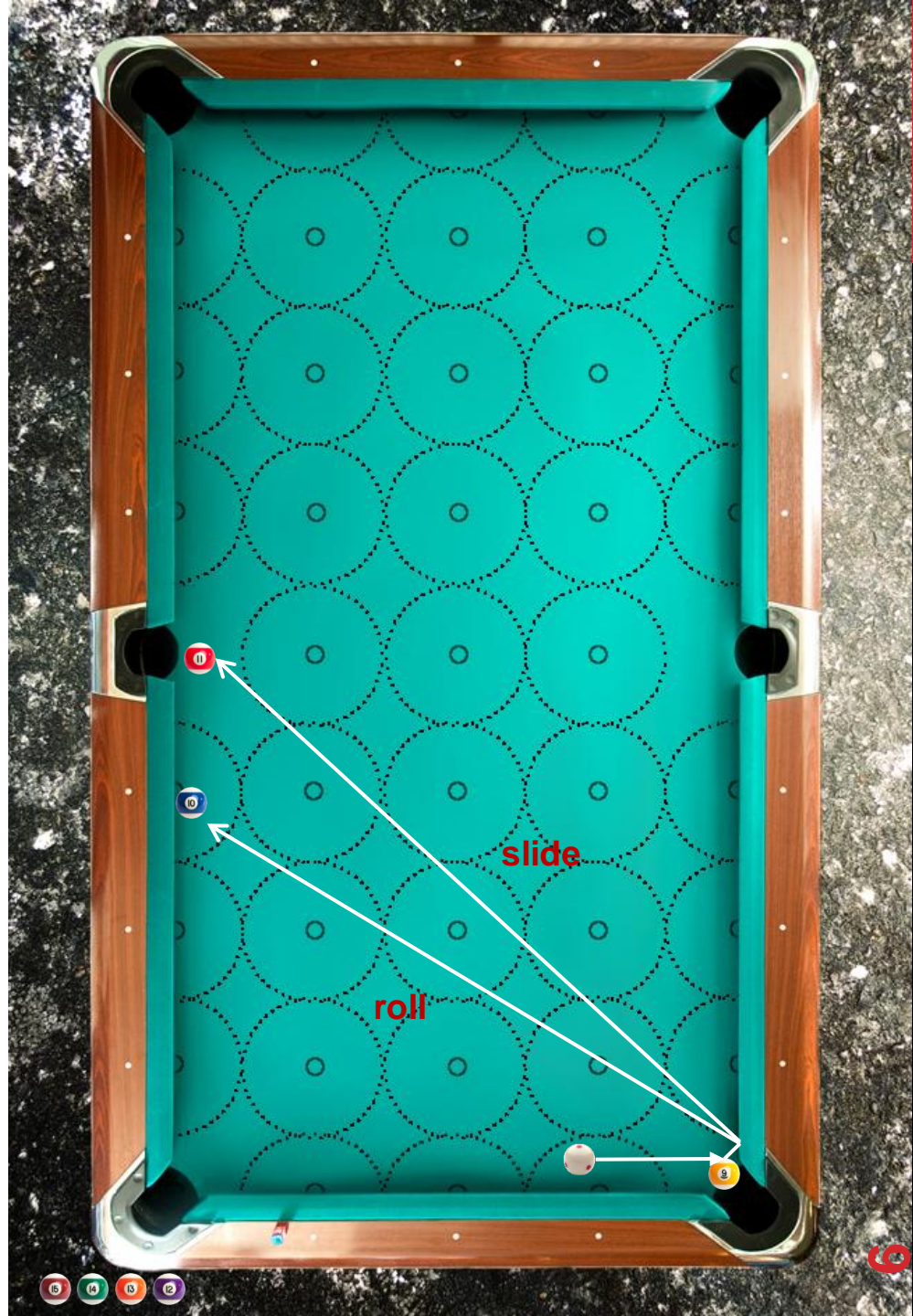
VOLUMES AGAIN

Probably not very surprising for you either, we will call this „maximum one diamond roll volume" pianissimo (pp). Since it's the softest volume there is for rolls (at least if an object ball is involved).

And to make things simple, we're going to add one step for every half diamond we're further back.

So we get pianissimo, piano, mezzo and forte. Unfortunately we cannot play this shot fortissimo because we'd have to place the cue ball on the cushion.

Note that this forte is nothing compared to the forte we practiced for slides.
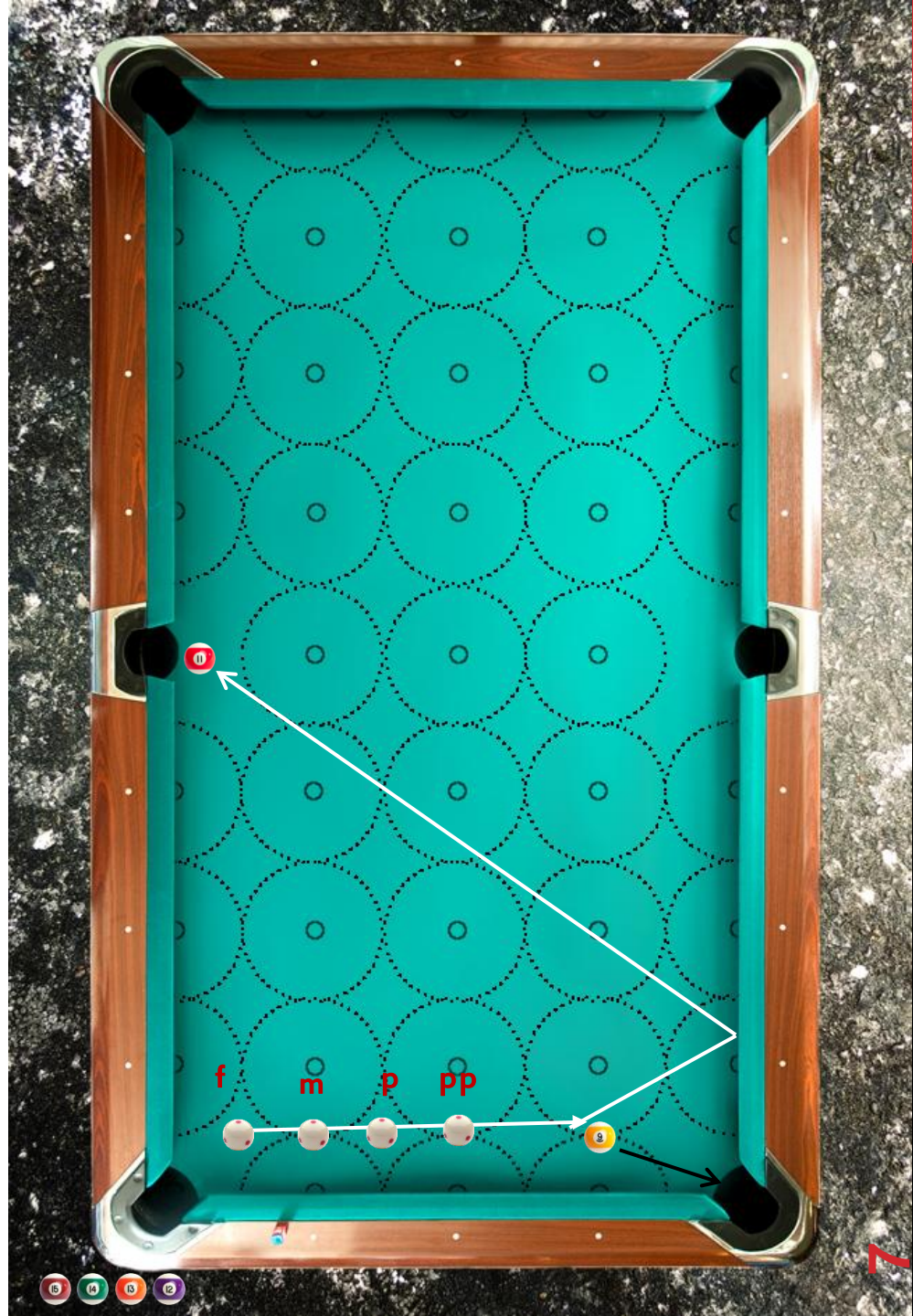
HALF BALL LENGTHS

So for the different speeds, where does the cue ball end on this half ball cut?

This can help you practice the volumes a lot, and gives you good orientation for your position play with rolling cue balls.

On a half ball that is one diamond away from the pocket:

- **Pianissimo** comes out one diamond from the cushion.
- **Piano** comes back to the center of the table.
- **Mezzo** travels three diamonds across the table.
- **Forte** reaches across the table and has a chance to scratch.

Of course, starting from piano **you can always play softer** if you need to come up shorter. But **you cannot play louder**, since you will no longer have **natural roll**.

As I drafted this sequence I thought to myself with a Yoda face: **So simple this is?**
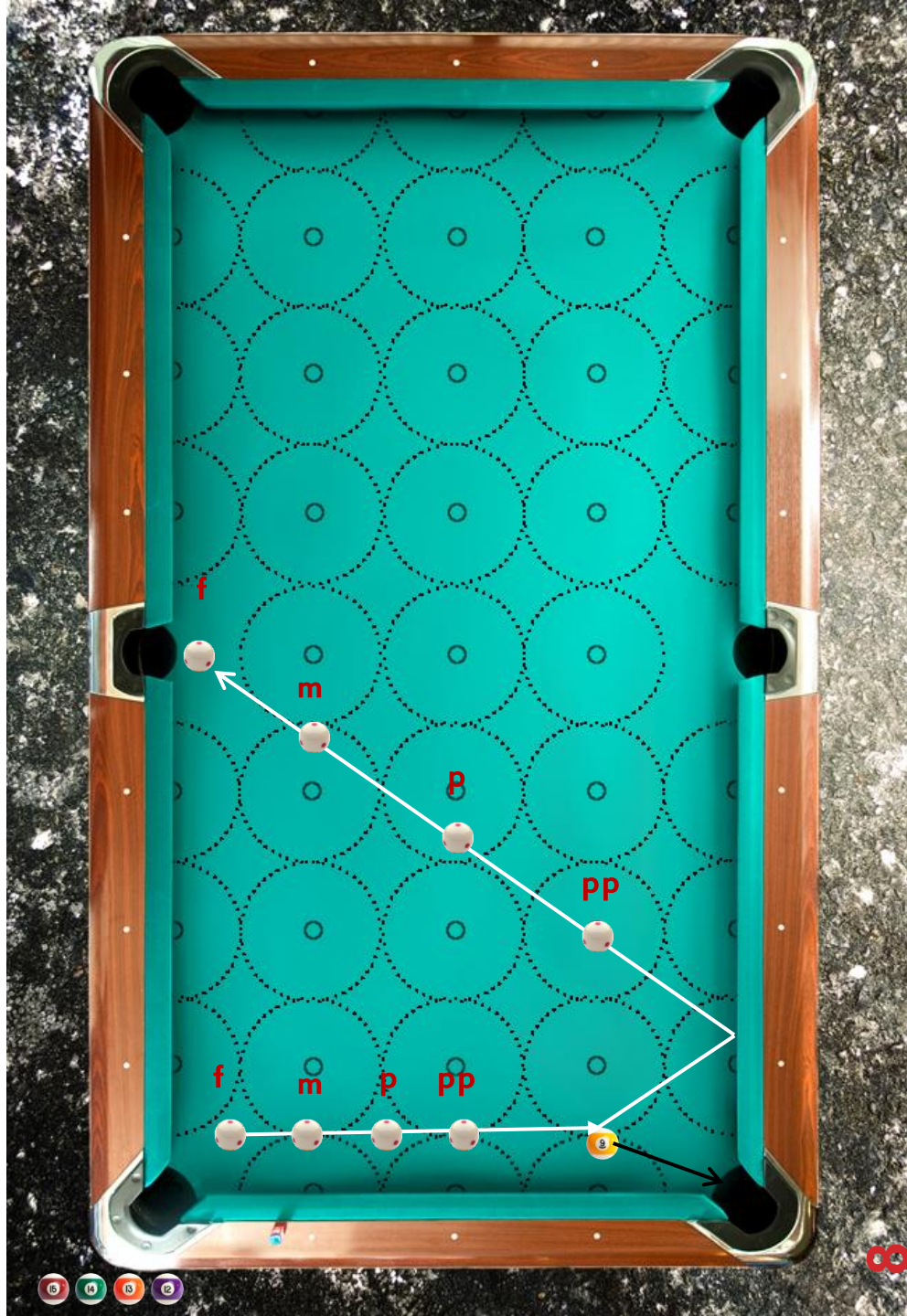
QUARTER LENGTHS

And what are the lengths for a quarter cut?

Quite different!

Since the cue ball doesn't lose nearly as much speed with a quarter cut the lengths will be somewhat different.

- What you feel as **pianissimo** shot from the last exercise will make it across the table, probably come out from the cushion a balls width.

- The **piano** will come out a diamond.

- The **mezzo** will come out one and a half.

- The **forte** will come back to center of the table.

Since two cushions are involved the end positions now are twice as close.
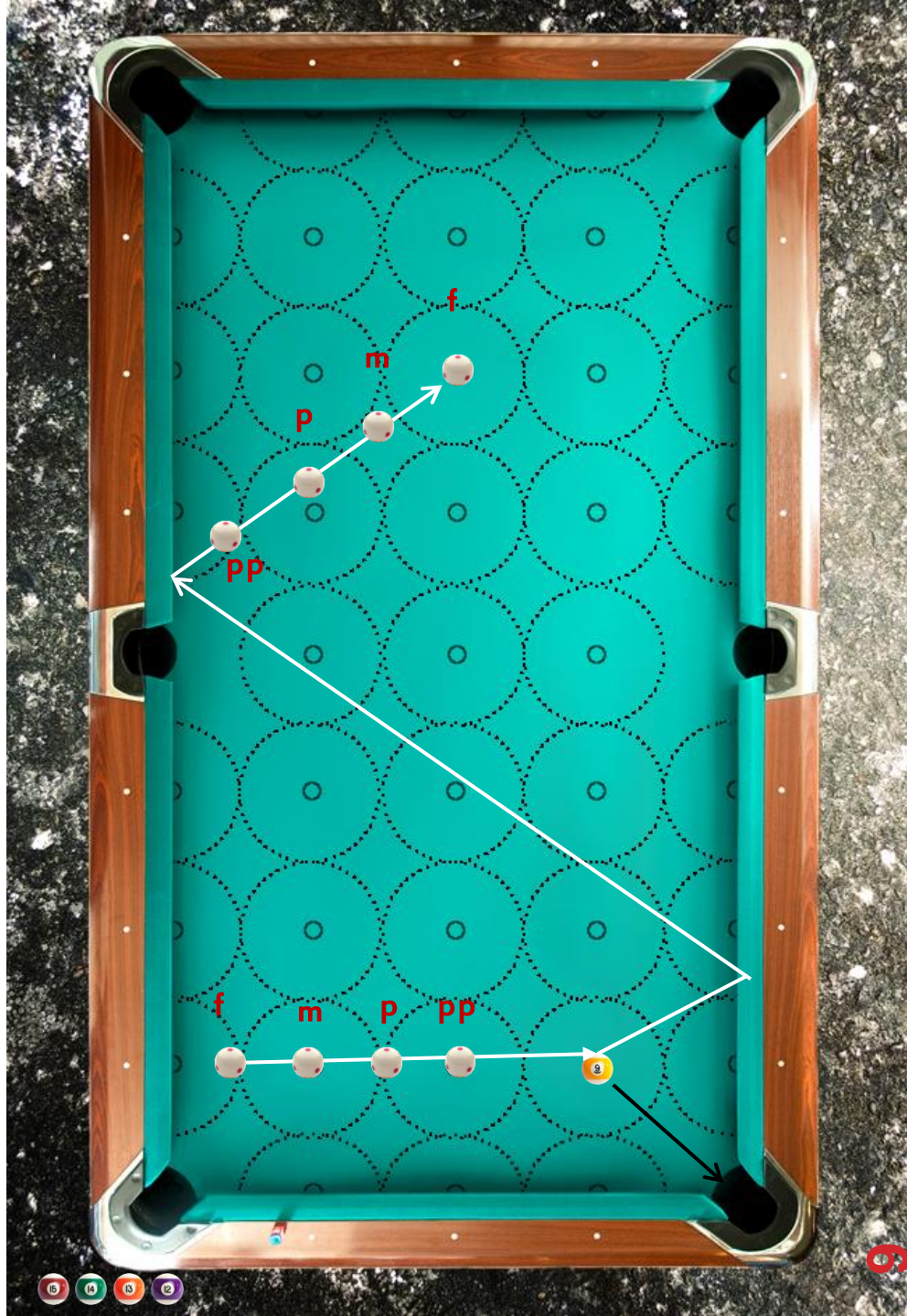
LONG WAY QUARTER

Of course we can also do this the long way.

And **surprise, surprise**: The end positions have spread out again. That's becase were hitting the second cushion with such a **shallow angle**. So it doesn't kill much speed off the cue ball.

I found these particular end positions for a quarter ball very interesting to keep in mind, because the shot does come up often, for example **when playing position for the nine in nine-ball.**

Better not crash into it. The shot is softer than many people think. Even pianissimo will get you in good shape …
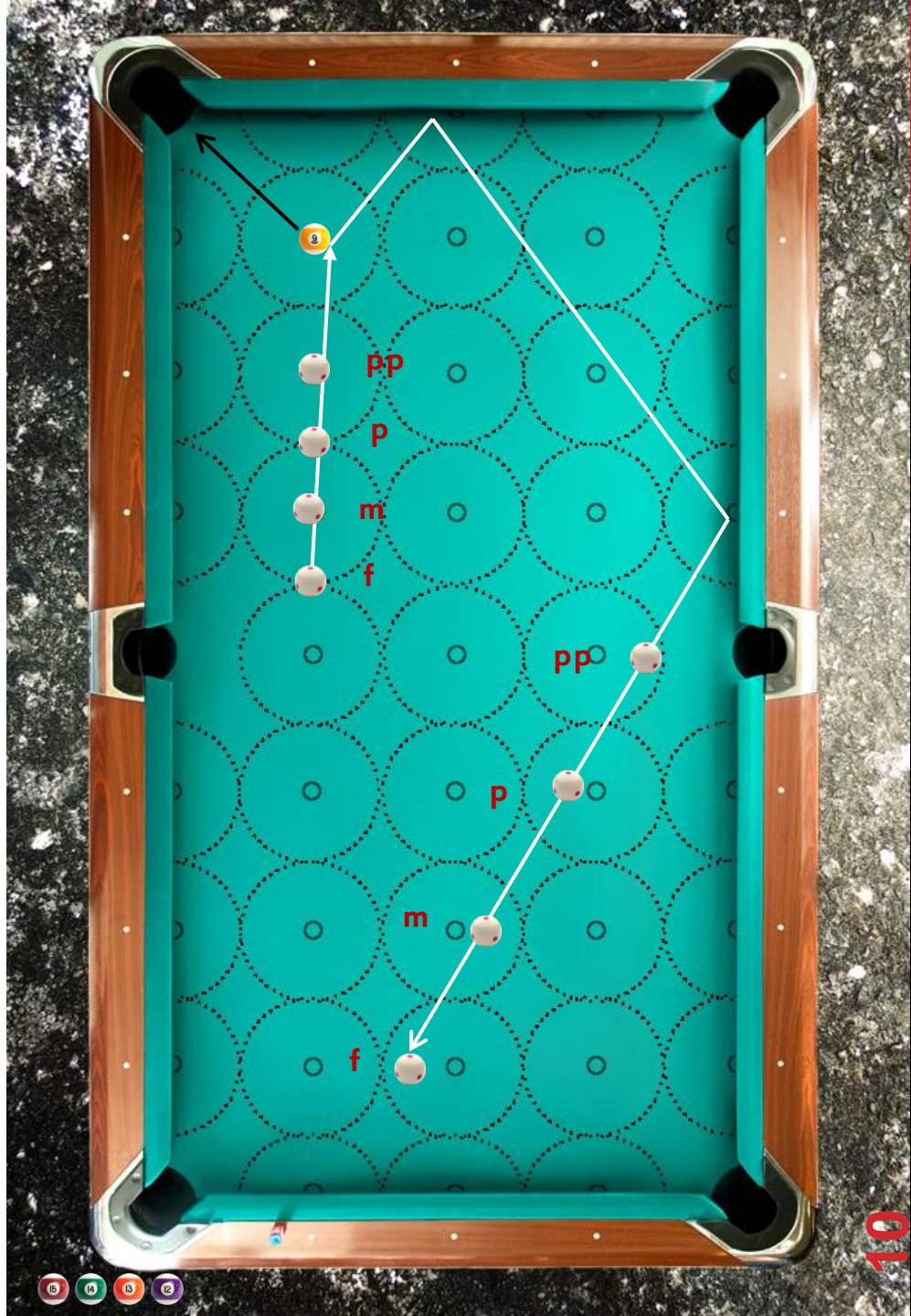
AROUND THE TABLE

This **Quarter ball** is also a handy fellow. Around the table and back into the center.

If you play this shot without any english, it will come up **toward the middle pocket instead of center table. So maybe add a tip of right. That will also help the length more than playing louder**.

Since you see: **you need distance from the cue ball** to get around the table. If you're close and play too loud you'll end up with a stun shot.

Which isn't too bad when you want to come up center table anyway, since **the stun path is almost the same.** However if you really stun it you will need more speed.

So if you play this shot too loud it will actually come up short! Then you must play it even louder.

So clearly indicate which type of shot you want to play!
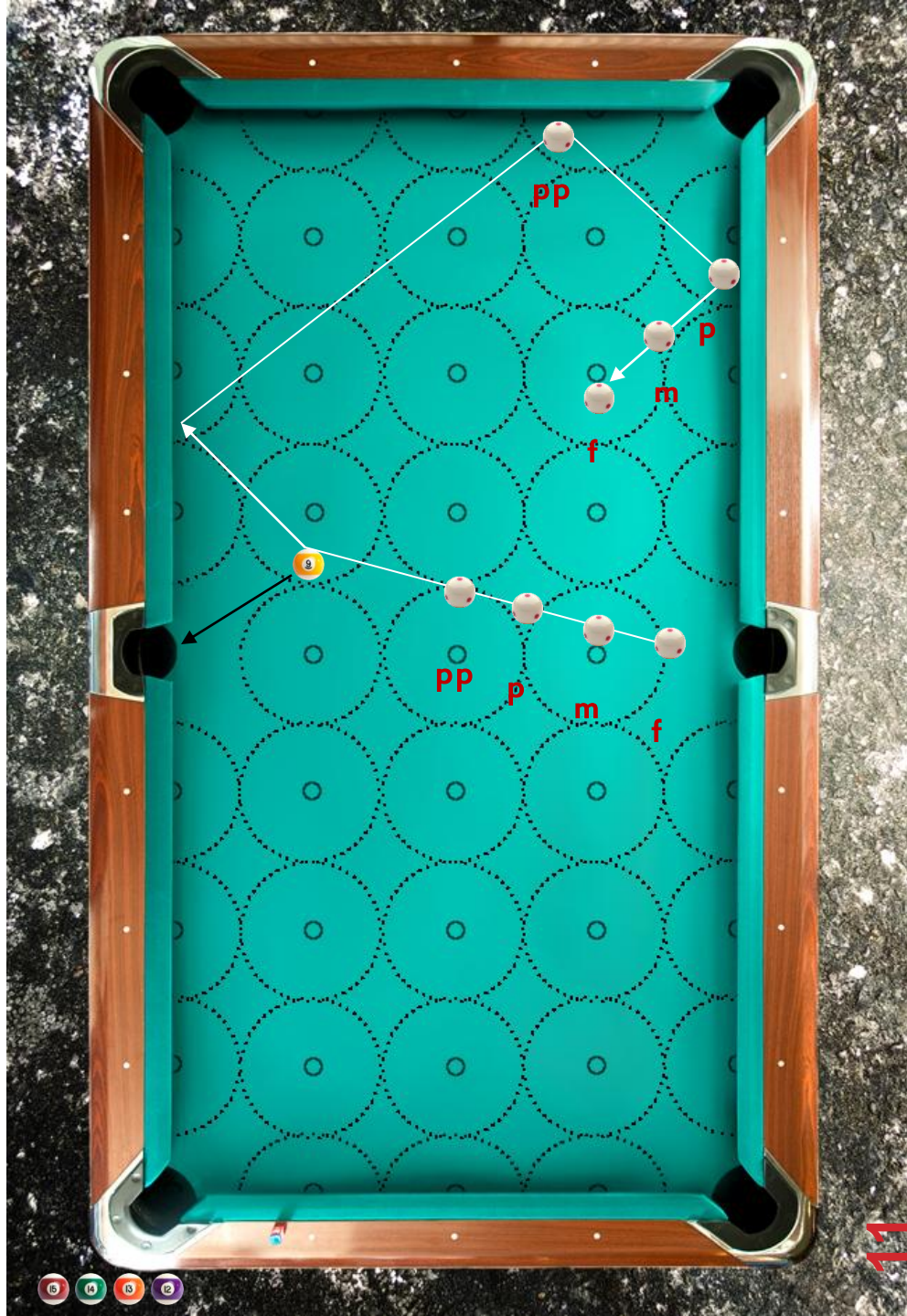
LIMITS: NOW WHAT IF

If this ball lies as half ball, things are completely different.

**You know that even a forte half ball will only reach the pocket, and even may scratch. Any attempt at playing louder will create a slide. That's viable, but that's not what I want to discuss here.**

Can this shot be played even from pp position?

Yes, it can. If the table doesn't play too slow. Add right spin.

That's what you need spin for when playing with a rolling cue ball. Not only to change the angle out from the cushion, but also to generate speed for the cue ball from it. The additional spin also helps avoid a slide.

Since only playing louder would produce a completely different type shot.
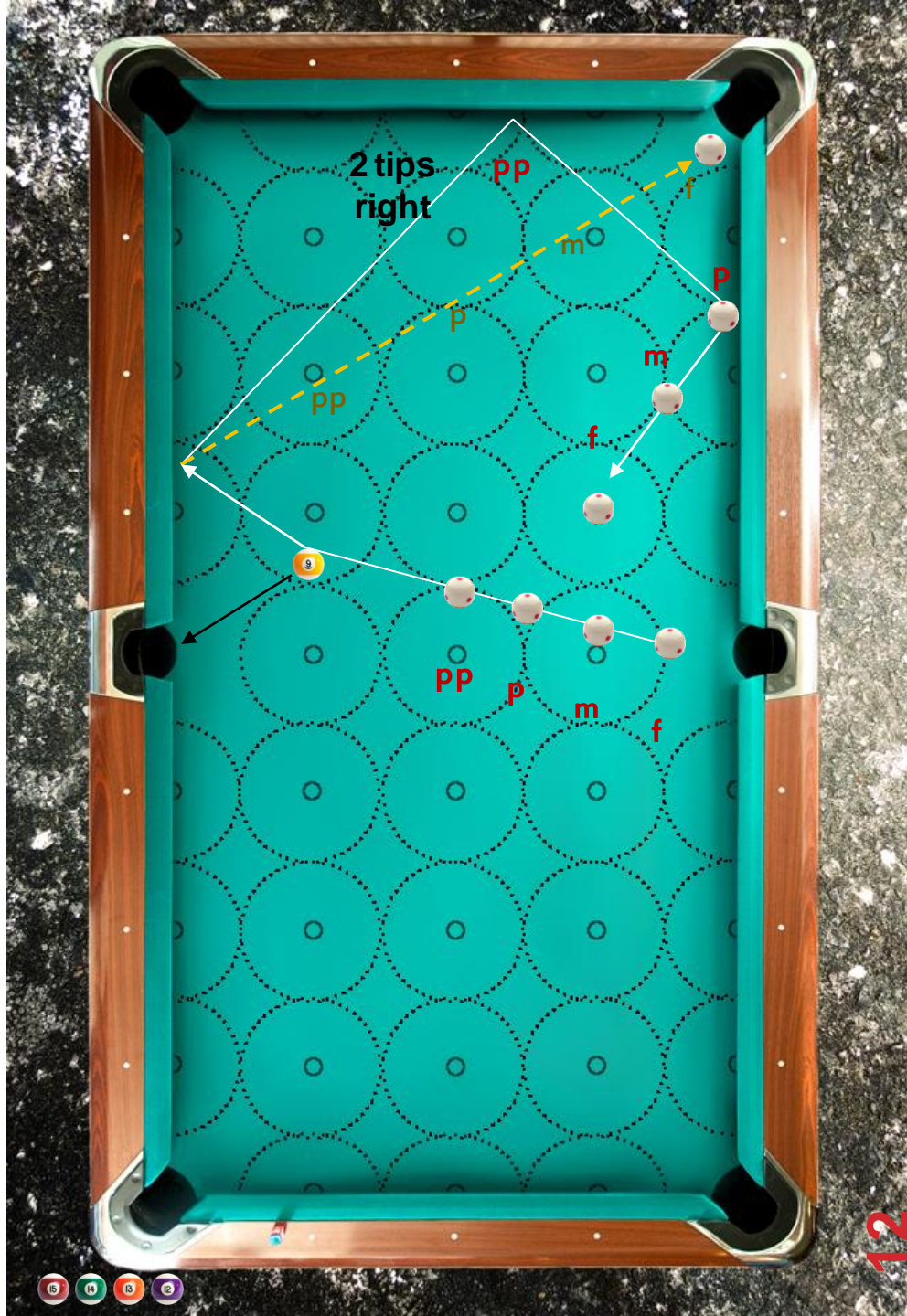
ROLLING ANGLES

Playing with **natural roll is a** completely different game **than** playing with **Slides.**

That's because the cue ball rolls ahead in a different angle after **the carom.**

Slides produce square angles. That's something we easily comprehend, because the table is also rectangular.

But there are many situations where stringing together rolls **gives easier shots. Just not as obvious.**

But first we need to take a look at what the cue ball really does.

13

GENERAL RULE: 30°

As a rolling cue ball deviates from its original path by more or less **30°** after the carom.

You remember **30° is 1:2 diamonds**. Since the object ball on the right is 2D from the cushion, the cue ball will come up 1D left from where its original path pointed to.

For half balls, it is even **up to 35°**, getting a bit less for higher and lower angles.

If you make a **peace sign** with your index and middle finger, without overstraining anything, that's approximately 30 degrees too.

But for any square situation, one on two diamonds is a good approximation.


← 1D →
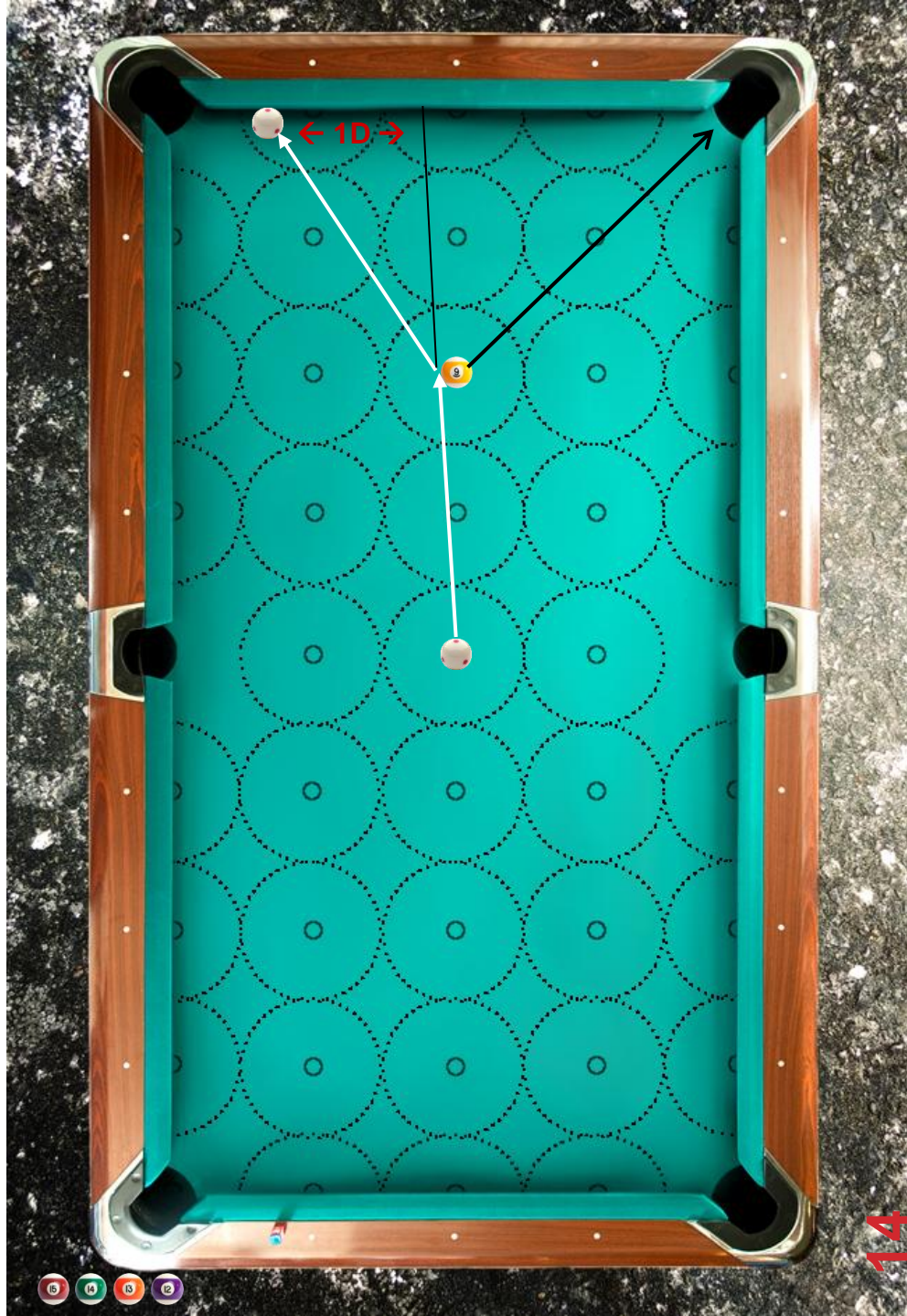
ALMOST STRAIGHT

For almost straight in **rolls** there is a better way to visualize the path of the cue ball: The cue ball will deviate **3 times the angle of the shot**. So if you´re shooting the nine in the example, you have that small angle to the left of the line of aim, then the cue ball will travel down the line three times that small cut angle to the right.

If it's **an almost straight-in shot**, better make that **4 times the cut angle**.

That's particularly good to know for **safety play**. In the example abov,playing safe behind the 14 is an easy, natural roll shot.

If the 14 wasn´t there, playing safe behind the 12 is a rather tough shot, because you need to play a really pianissimo slide with decent timing between length of the 13 and path the cue ball travels down the tangent. Probably the shot will end up as half roll half slide, difficult to control.

That´s **not an easy safety** compared to the snooker behind the 14. With the „3 times the original angle" rule you can predict the path of your rolling cue ball almost precisely.
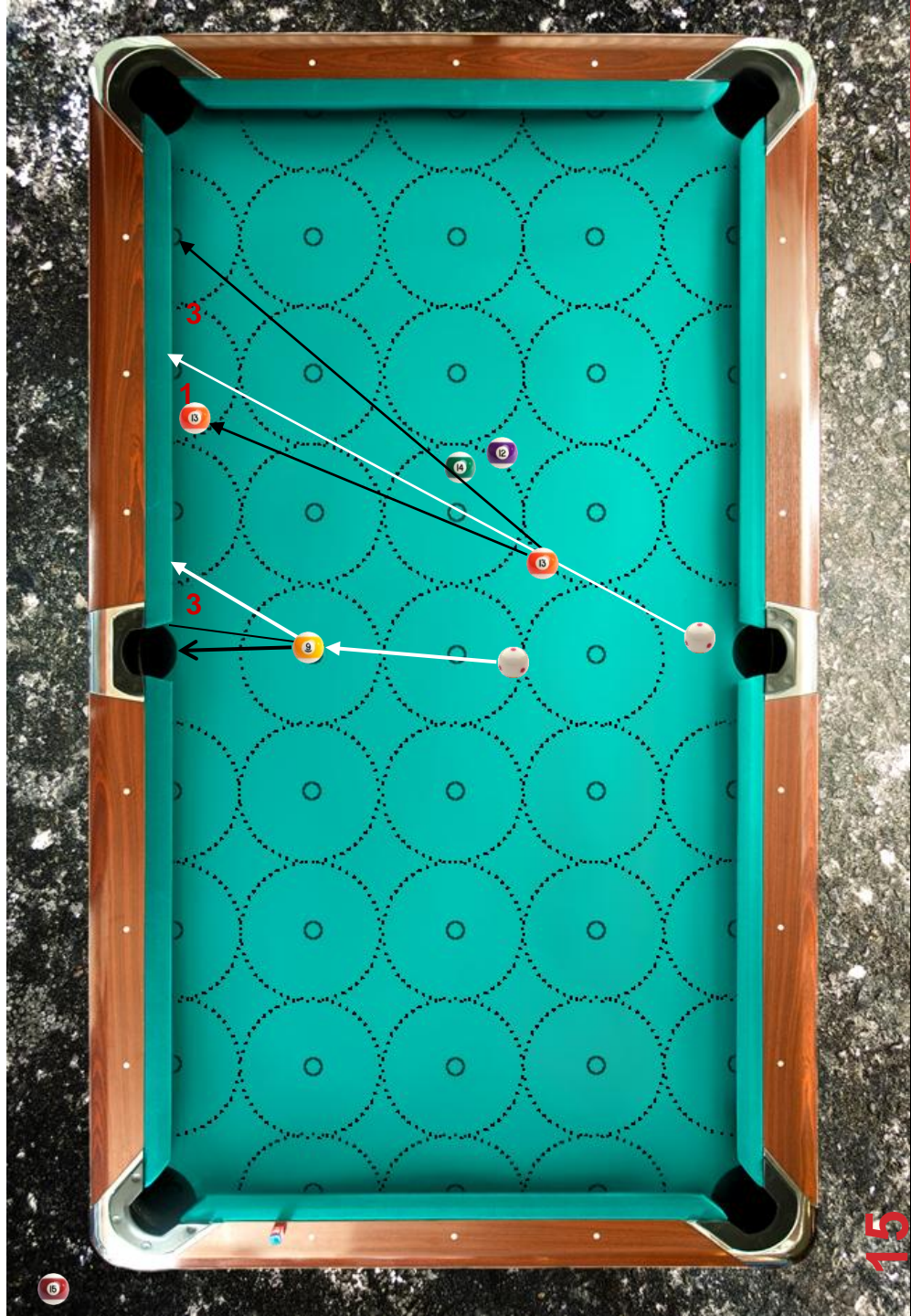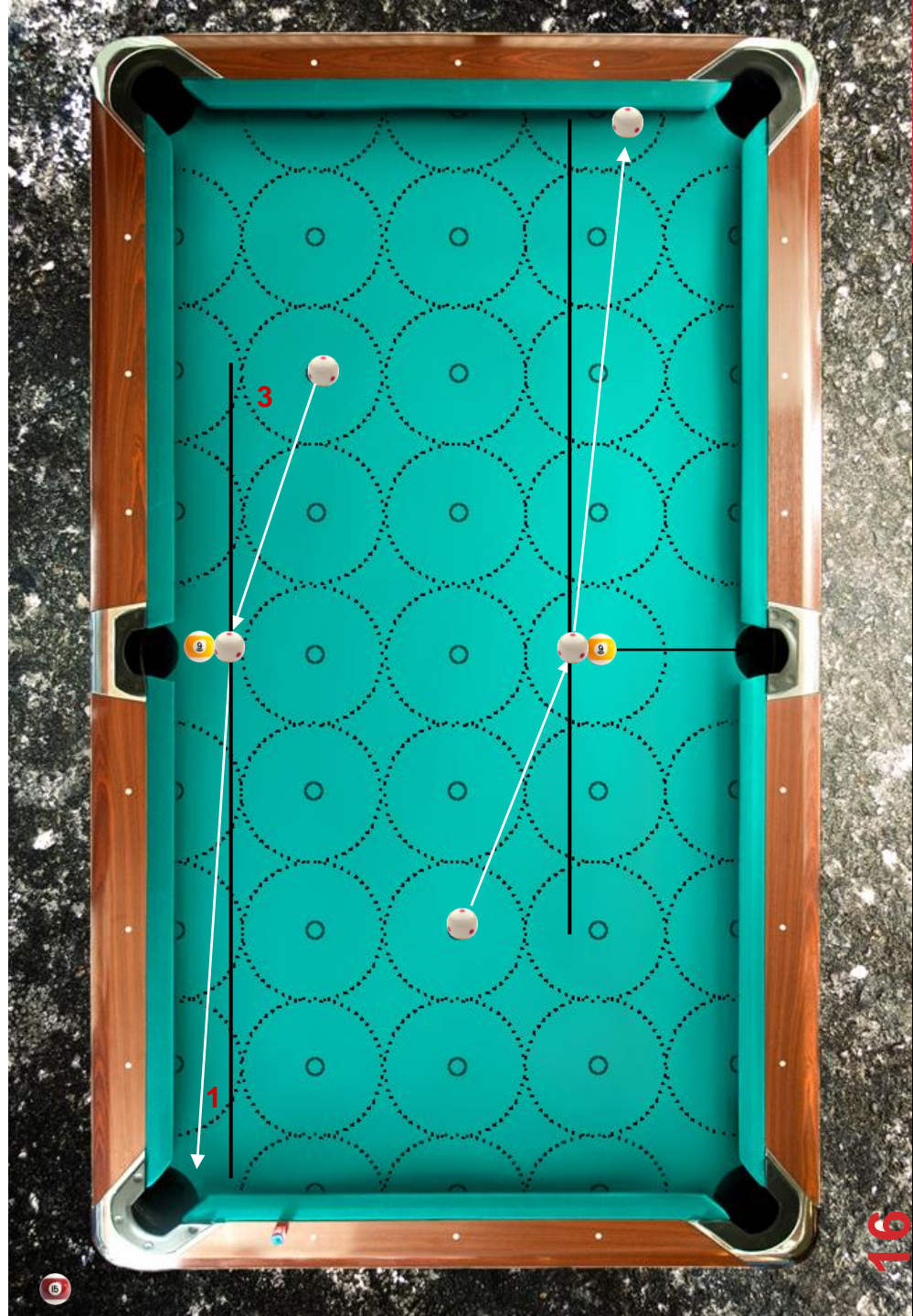
ALMOST MISSES

On almost misses the cue ball will trickle off with a third of what you came in from the tangent path.

But you probably already know the path on the left of the table *cough*.

However the path on the right is safe and very predictable.

CUSHION: WASH AT 60°

When we're playing a ball near the cushion, the angle of the cue ball and the angle out **sum up to 60°.**

In the upper example the cue ball goes in with 45°, a **Quarter**, at 1:1 diamonds.

Thus it comes out with 15°, a **Three Quart.**

That's a good reference because that's **one diamond across half a table** that the Quarter follows out from the cushion. So I would not attempt to **roll that Quarter** if it was one diamond closer to the pocket

If it goes in with 60°, which is about a **Ten Thin**, it comes out straight.

And of course the reference of references for 30°:

Half ball goes in, half ball comes out.
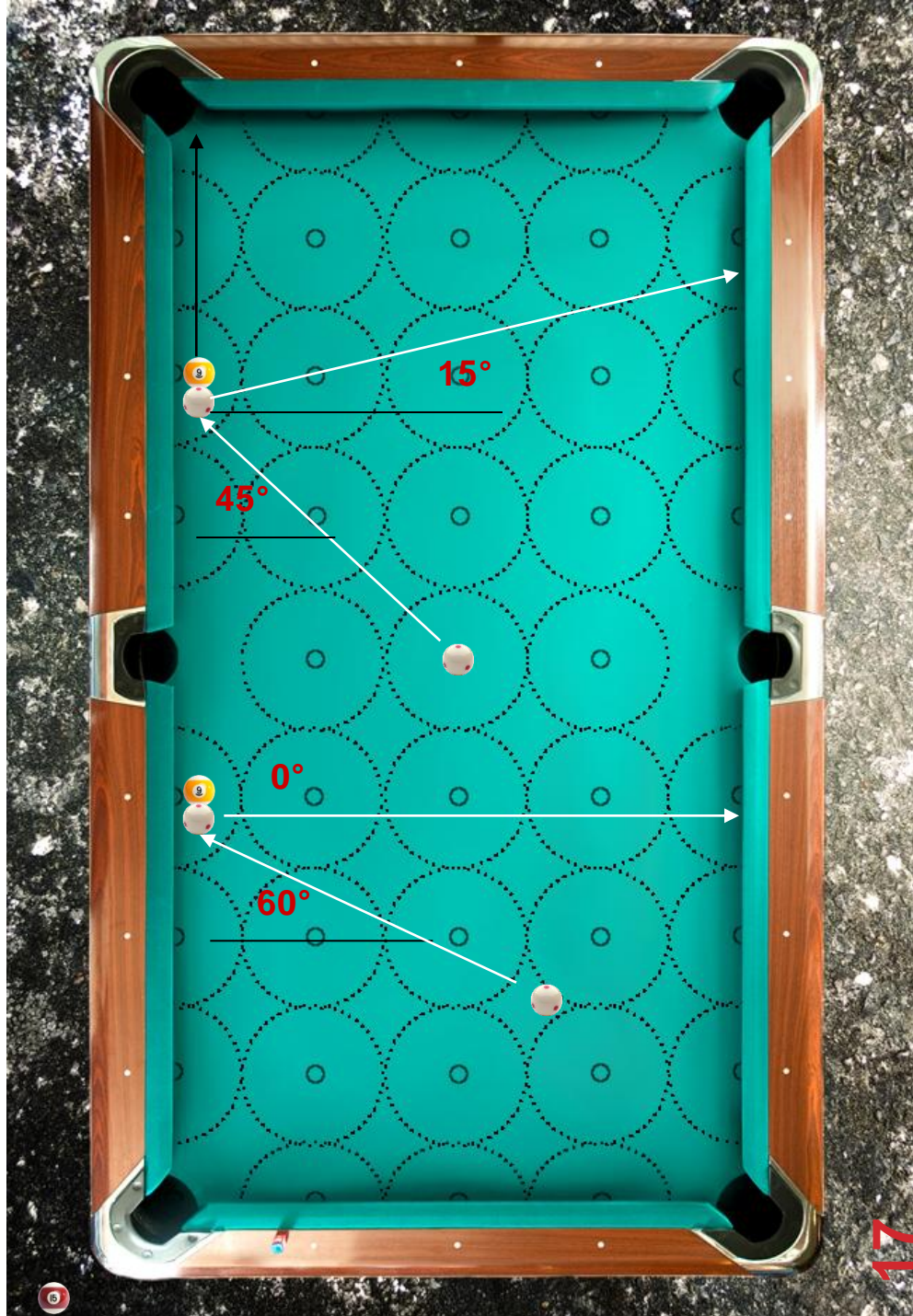
PATTERNS

TRIANGLES ON A ROLL

Many people think in stop ball patterns when they think of triangles in straight pool.

While that of course is the easiest thing to do position must be perfect, and the triangle must be perfect.

But there is no need to. Using natural roll works just as fine with these. Even with this perfectly regular triangle.

I've combined three shots for you which you already know. You also know the speeds to execute them.

**You may be surprised how standard and minimal they are.**
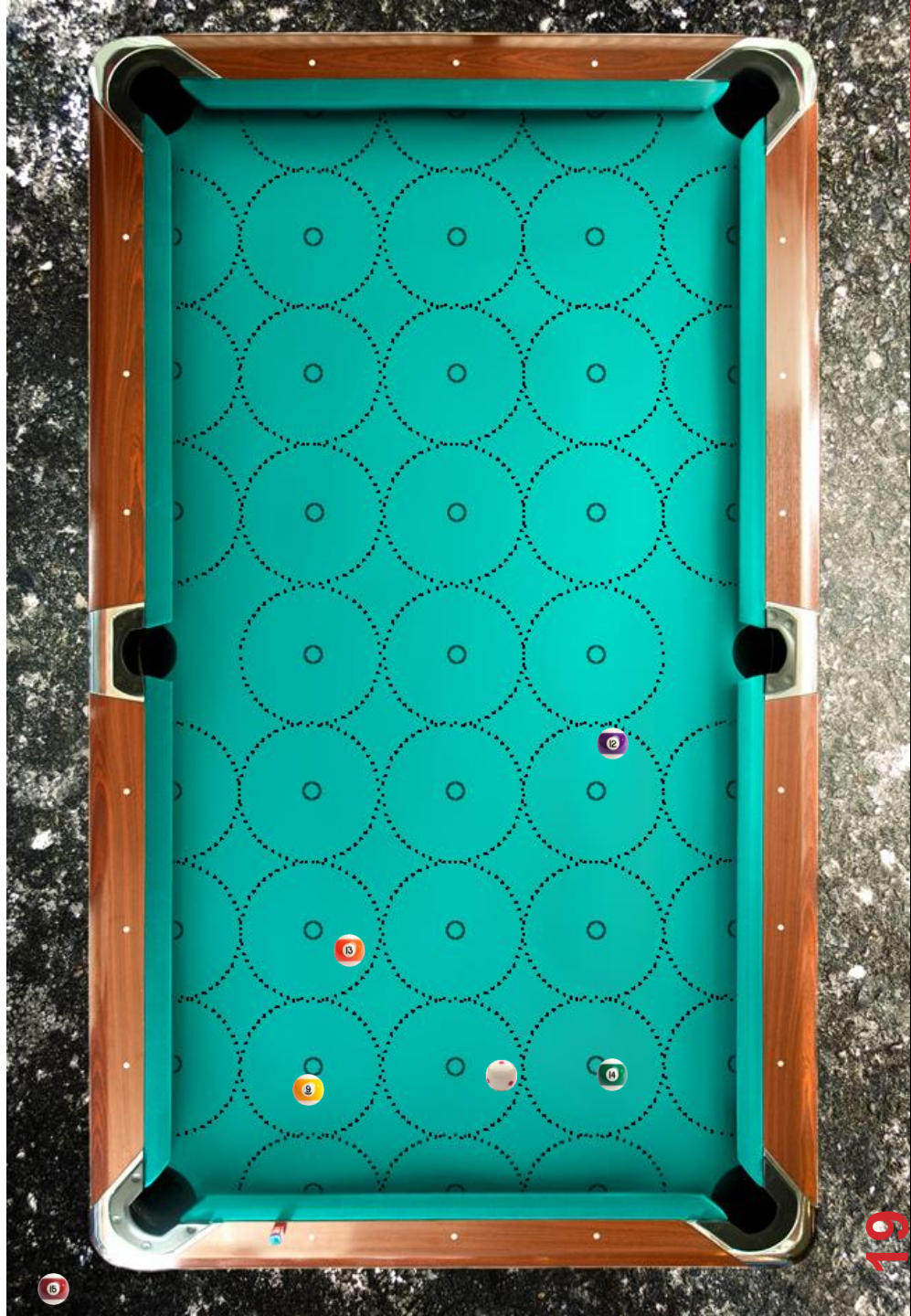
TRIANGLES ON A ROLL

1. You know this **pp forty** ball will naturally roll toward the middle pocket, maybe a bit up table of it. You even know that it may run far, so you may even play a bit lower to slow it down, which also helps to stay clear of the 13 ball. Note the huge position zone.

2. You know this **pp half ball** will come out about a diamond from the cushion for a perfect position on another shot you know. If you overshoot you can still stun the 14.

3. You know this **pp quarter** will come up as shown. Maybe you want to **add a little right spin** to come further toward the middle of the table. But not too much. Note the huge position zone.

That's **three pianissimo rolls of standard balls.**

Cannot get things any easier.
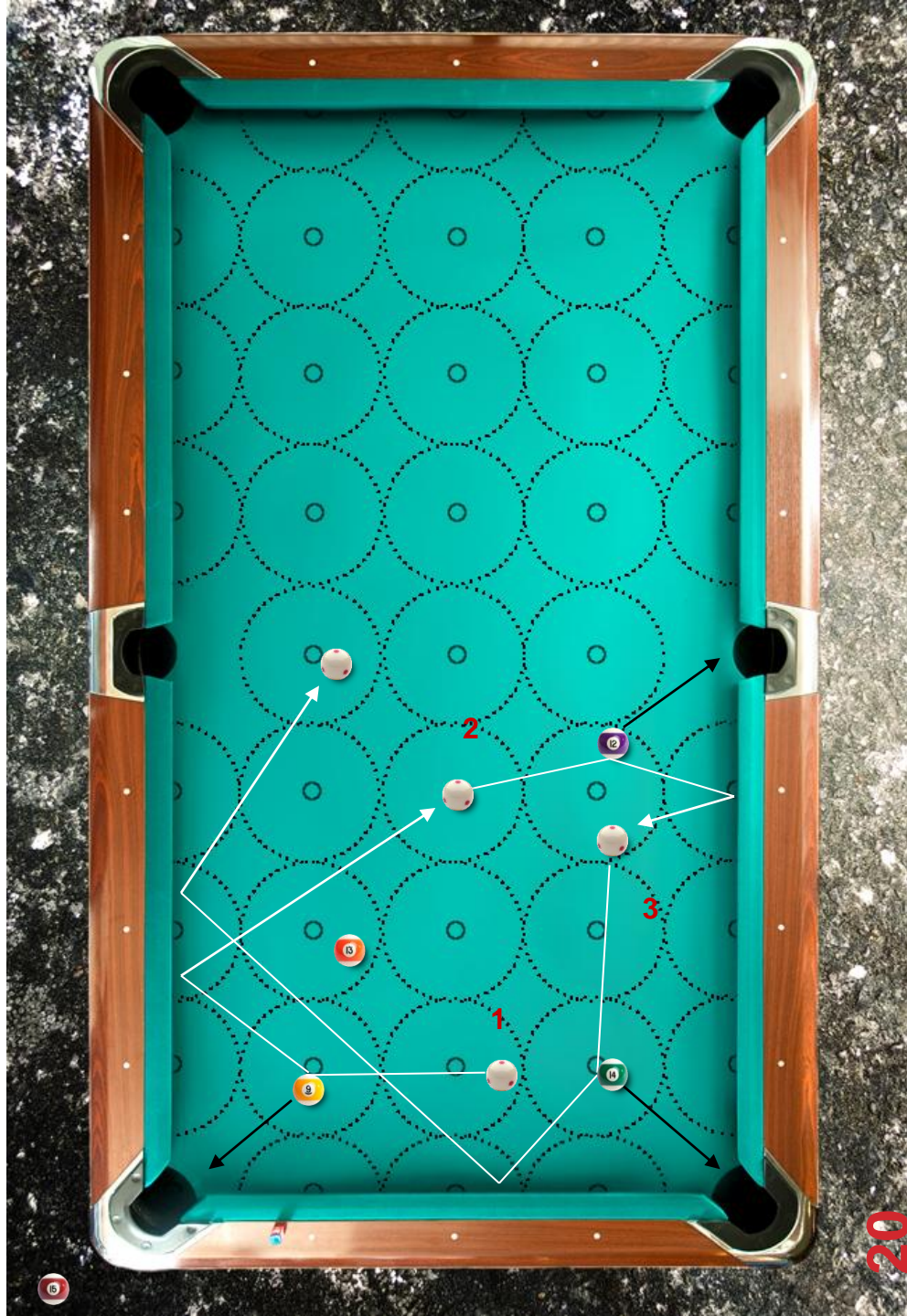
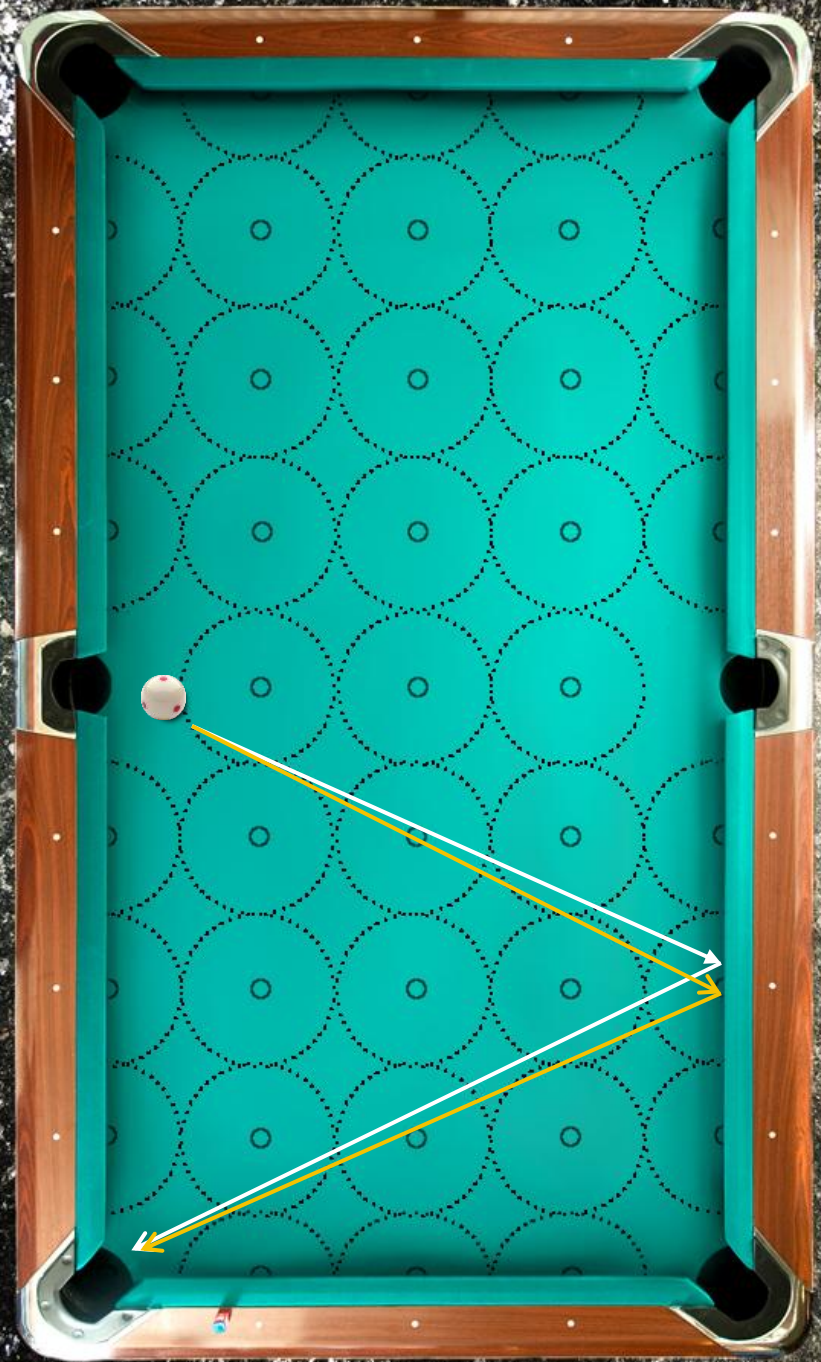NOW WE'LL LEARN HOW TO GET AROUND THE TABLE.

WITHOUT ANY SIDE SPIN.

STANDARD PATHS

STANDARD PATHS

Now I'll show you a couple of standard paths. You probably know this one. Just to be complete here. Angle in is angle out for a mezzo roll.

If you play firm, then you may want to go down an inch.

If you're close to the cushion, so that the ball even slides into it, allow for another inch.

STANDARD PATHS

One-on-One

Did you know this one too? No?

I call it one-on-one, because if you're playing from one diamond away from the corner on the short rail toward one diamond next to the opposite corner on the short rail you will end up one diamond away from the other corner on the short rail you started.

Got it? ☺

This shot sometimes saves lives when the direct path is not available and is really easy.

**No spin needed at all.**
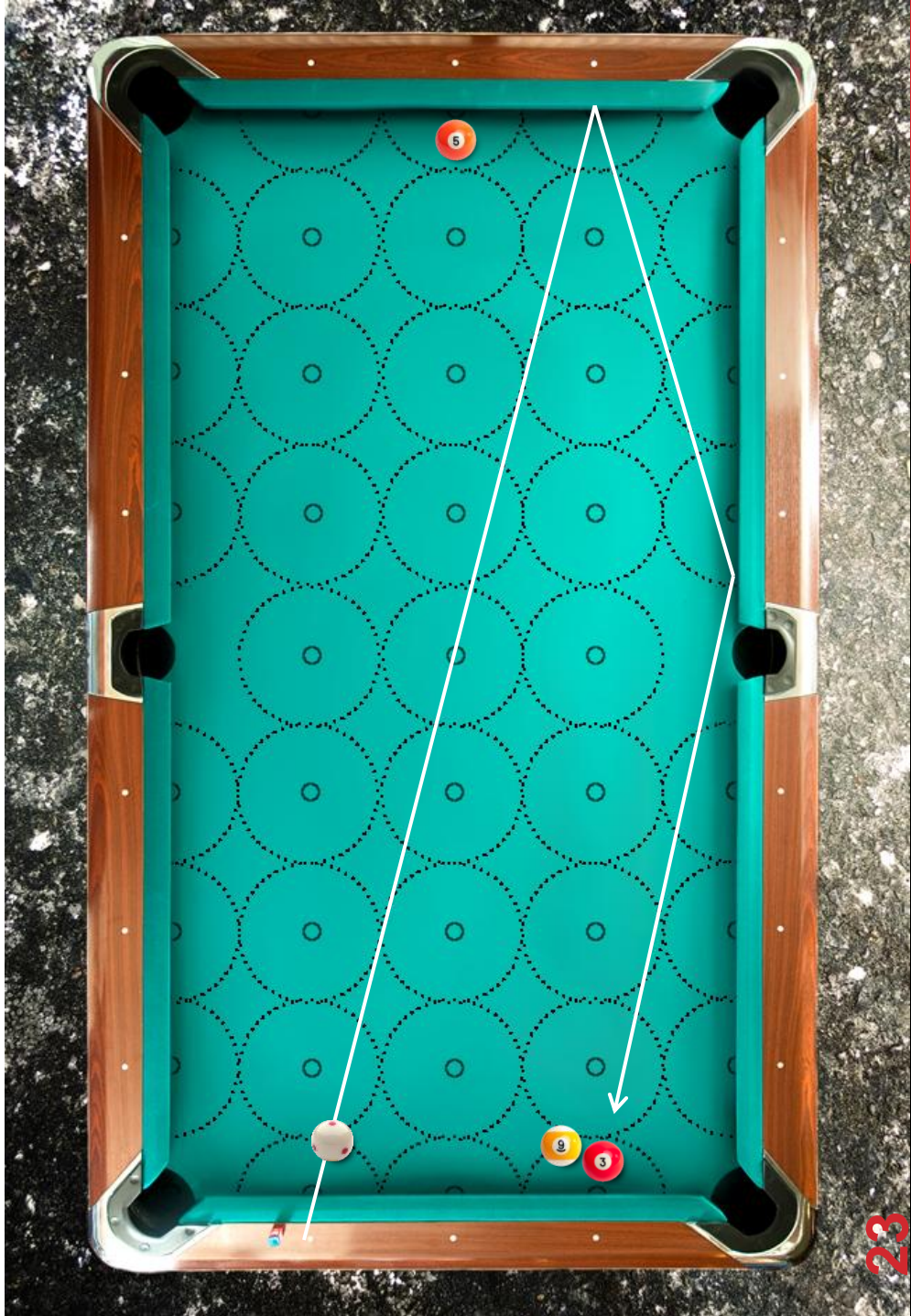
ONE-ON-ONE ALONGSIDE

Adaption of „Joey's Alignment"

(Joey Ventrelli)

This one may end up to somewhere between the first and second diamond on the third rail. It really depends on table conditions.

You can then try to parallel shift this. Half a diamond on the short rail by one diamond on the long rail. But it depends on the cloth. On most pool tables you will probably have to go with smaller angles into the first rail as you shift to the right. But the 1-1 should give you a decent reference.

Ah, you need speed to do that shot.
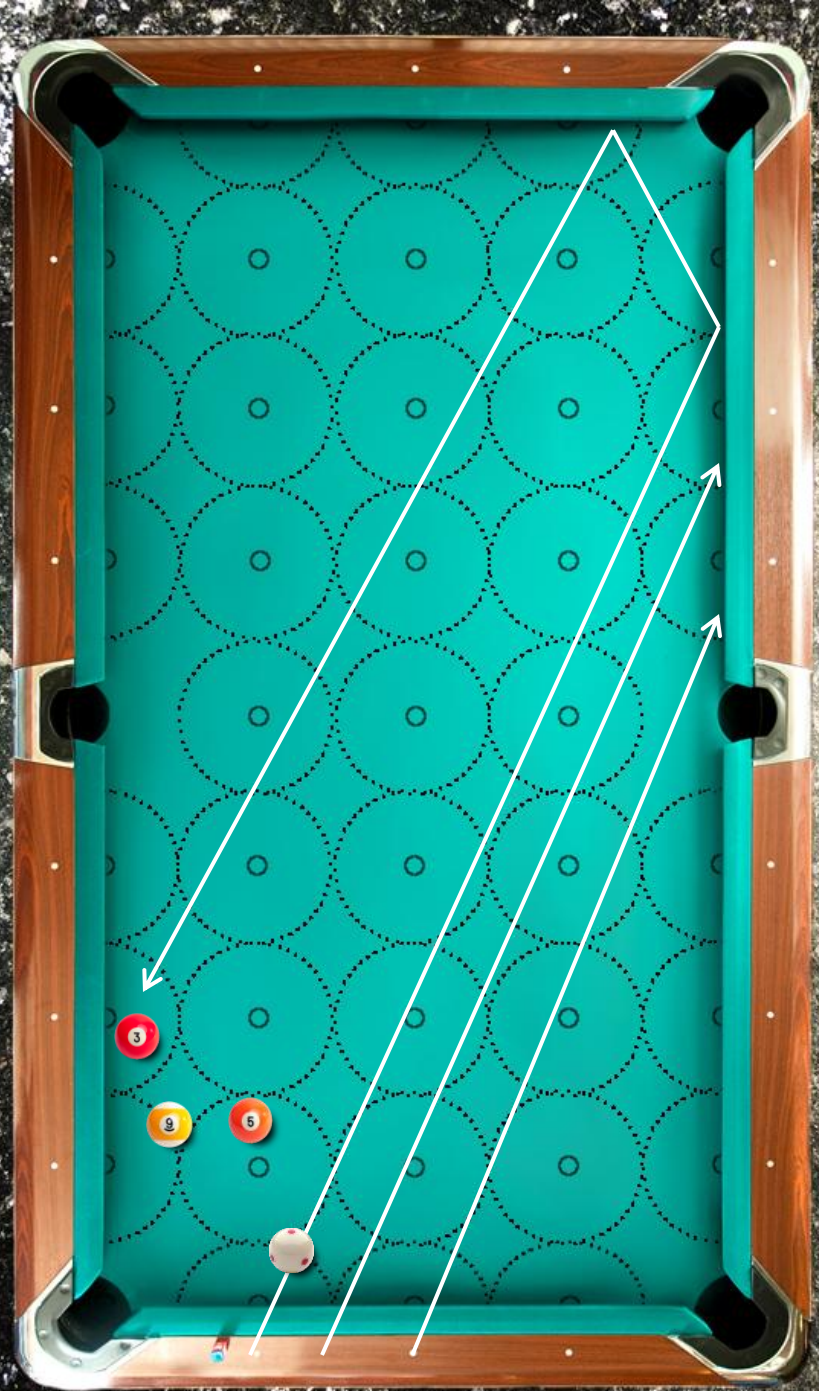
NEW YORK BOB SYSTEM

Pool Table Adaption

To get to the corner we need to jazz up the One-on-one a tad. This one's called the New York Bob system. Dependent on your table you may even need to move **a little further to the left** in the example.

Check it out, it's well worth it.

Again, **no spin required.**

NEW YORK BOB ESCAPE

**Pool Table Adaption**

(Gwenn Dana)

If we take this up a notch, it can be useful for yet another seemingly desperate situation. If we shoot from the center diamond of the short rail into the first diamond on the long rail, we will even stay clear of the corner pocket and come back out to the long rail.

This is very useful stuff.

Since the route is pretty stable the table may be crowded in the area.

Parallel shift applies.
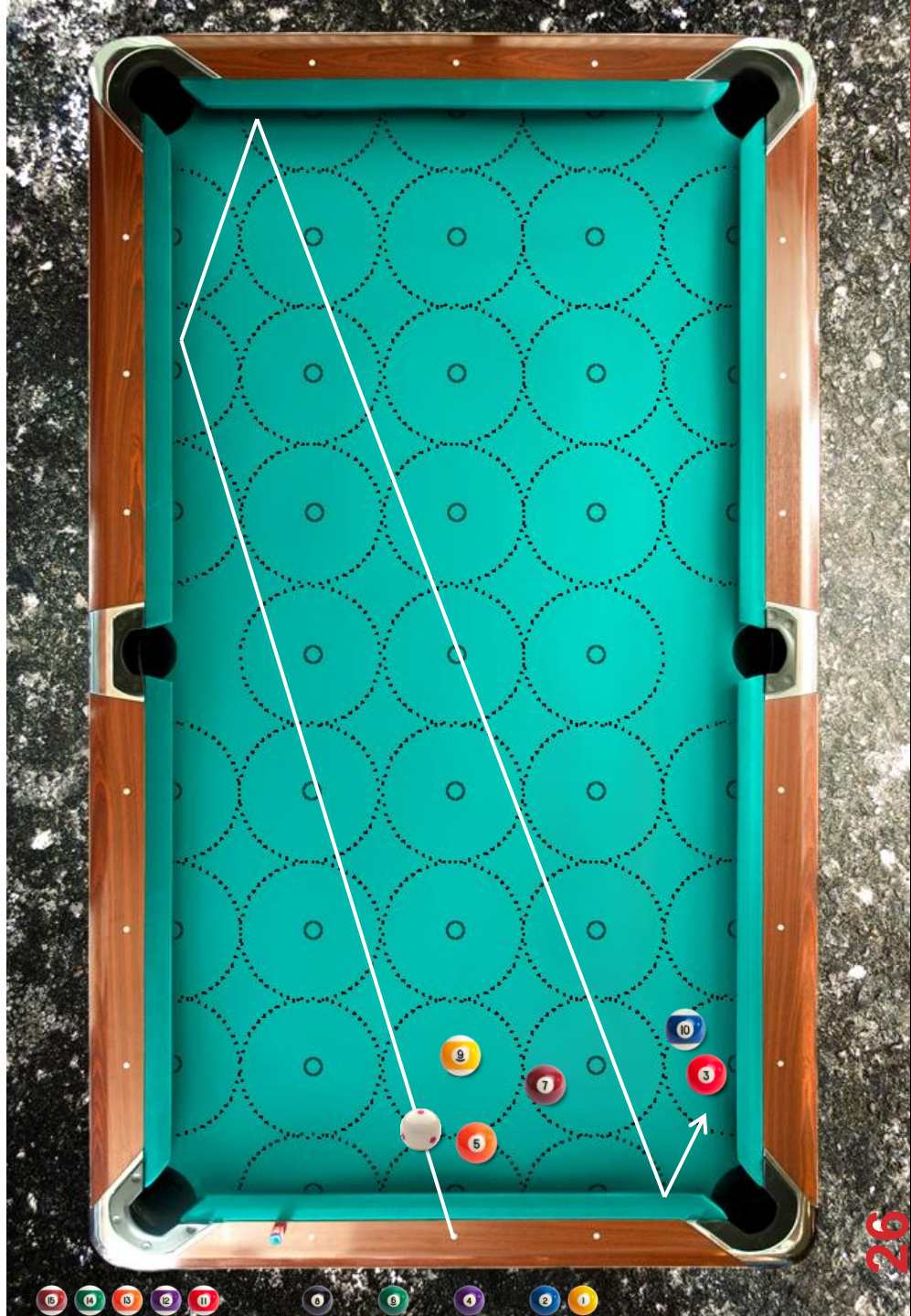
BERNIE'S DEAD BALL TRACKS

From carom by Bernie Wishengrad.

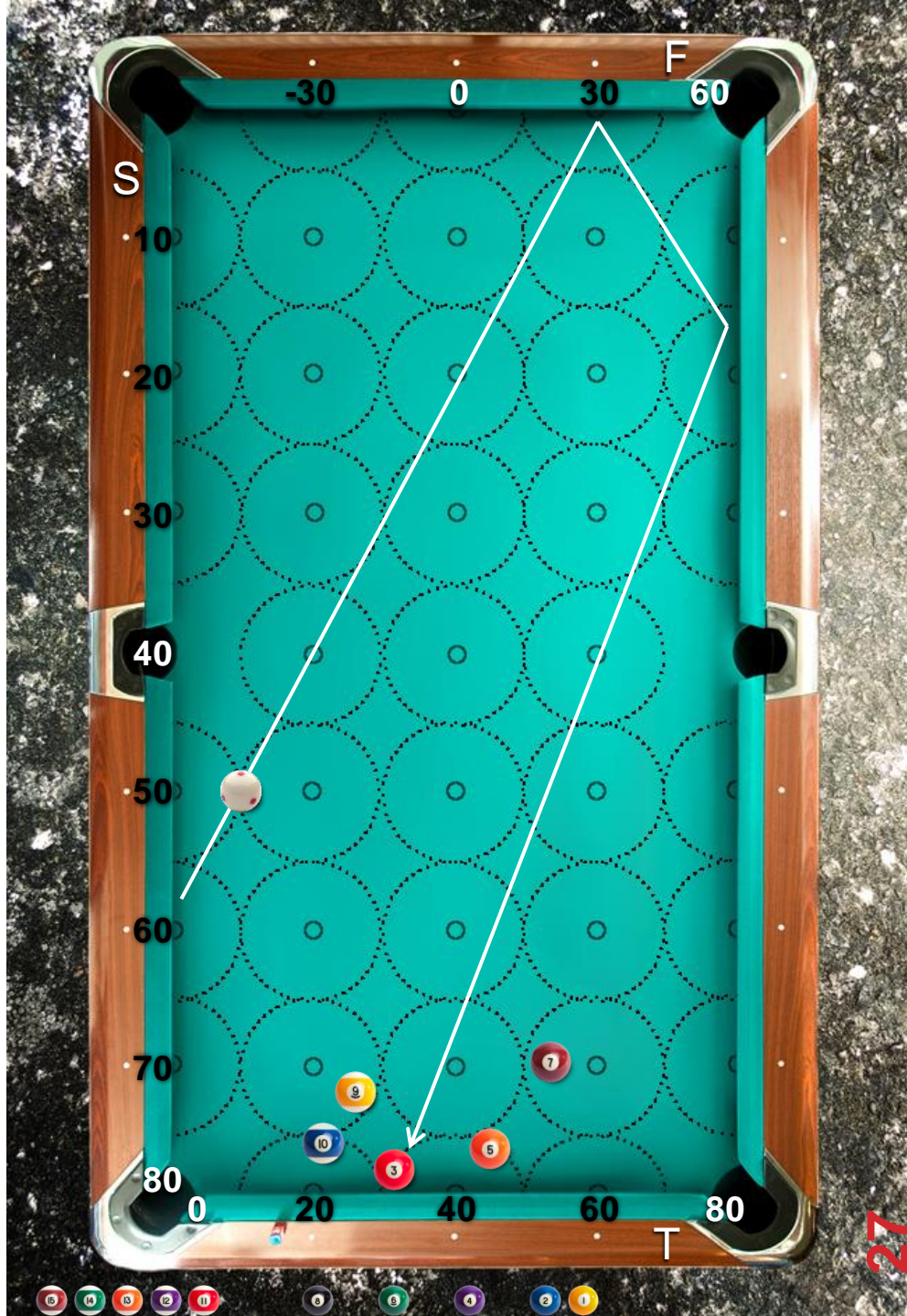**Known as a dead ball system that actually works.**

Unfortunately you need to do a little math for it, but it's simple:

$$S - F = T$$

You think it's insane to go for this shot?

Well, you'll be surprised how accurate this system is.

S: Source
F: First Rail
T: Target

SYSTEM SID (2/Cushion)

By Sid Banner

This is one of the most well known systems out there. Some people like to do one rail positions by geometry. Geometry is nice. But it's not accurate. Too much guesswork.
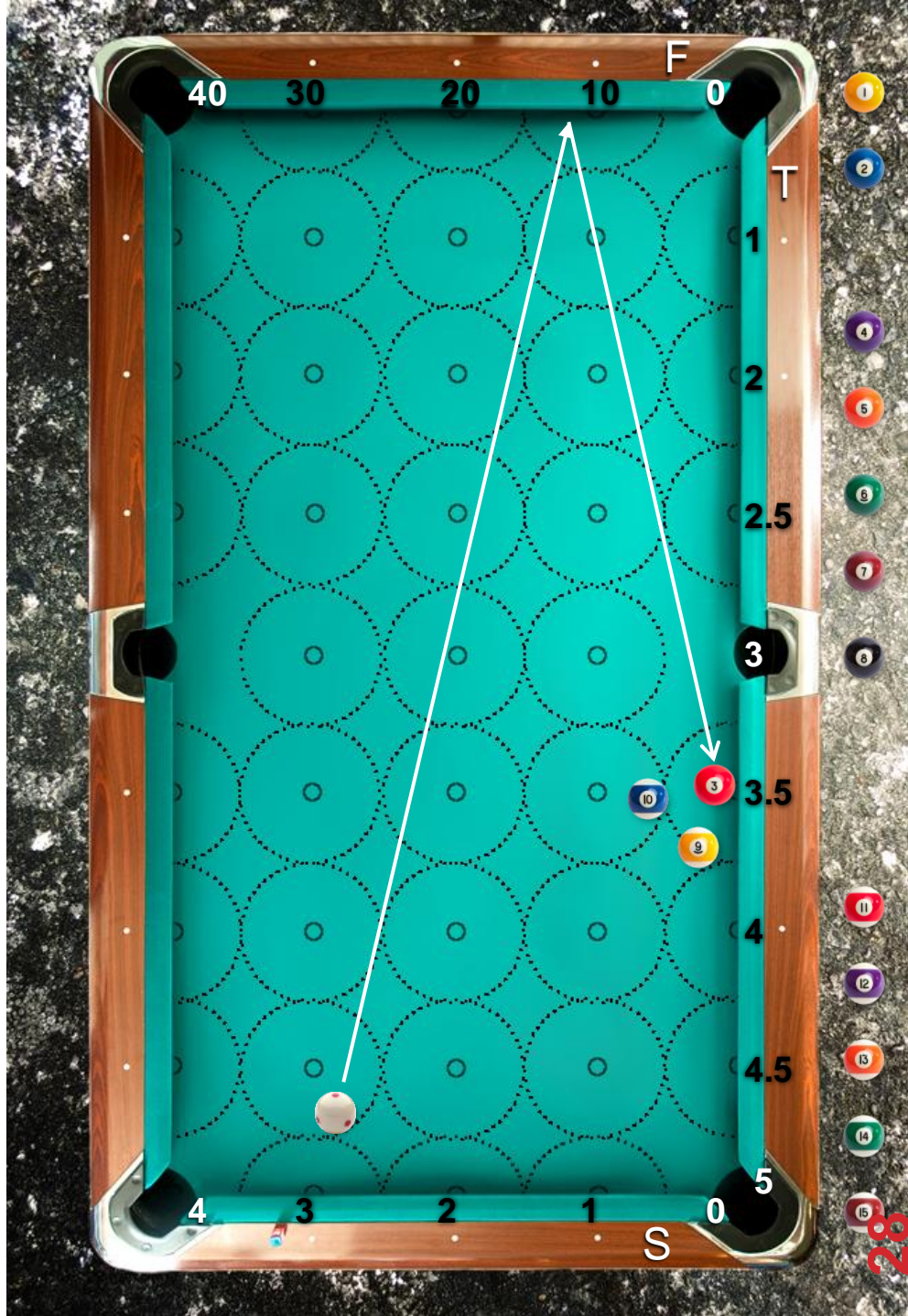
If you can easily calculate something you'll have an edge.

$$S * T = F$$

$$3 * 3.5 = 10.5$$

The target position is across the diamond, not through the diamond.

**This numbering on the target rail is used by many systems. Worth remembering.**

IF YOU INSIST ON GEOMETRY

Call this Sid's Cousin.

Of course you can do things by geometry.

1. **First find point X from which you want to go into the ball on the long rail. Do some major guesswork there.**
2. **Then mirror that point to the opposite rail X'.**
3. **Now find point Y straight above the cue ball.**
4. **Now find the spot where the lines CB→X' and X→Y intersect.**
5. **Find point Z straight above that point.**
6. **Now shoot into Z, but into the diamond.**
7. **Don't forget correction for speed.**

Blame me, but I'll stick with the calculations.
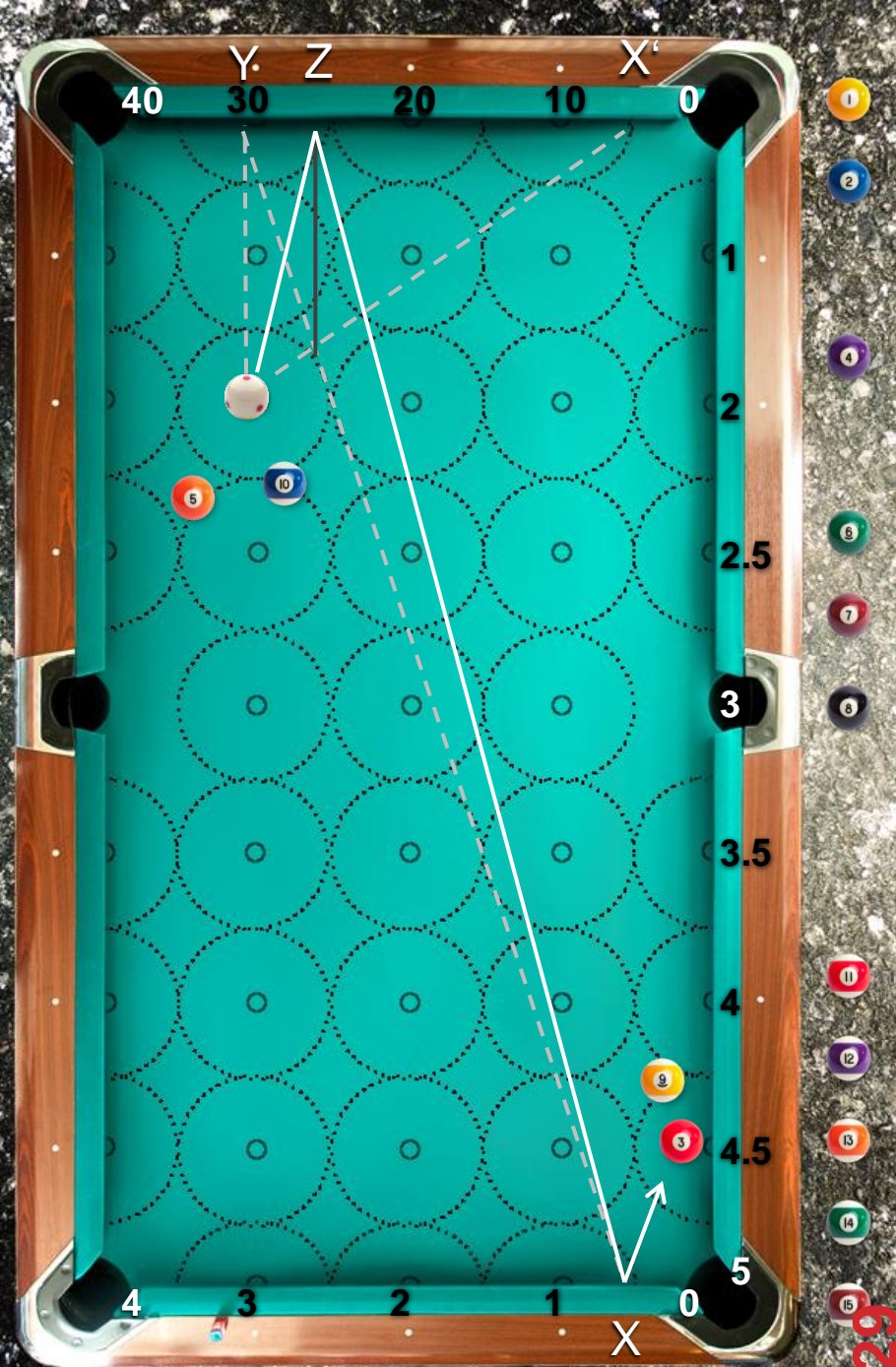
BLUE MOON

And since I love those calculation systems, another one for a rolling cueball without spin. I couldn't find its origin.
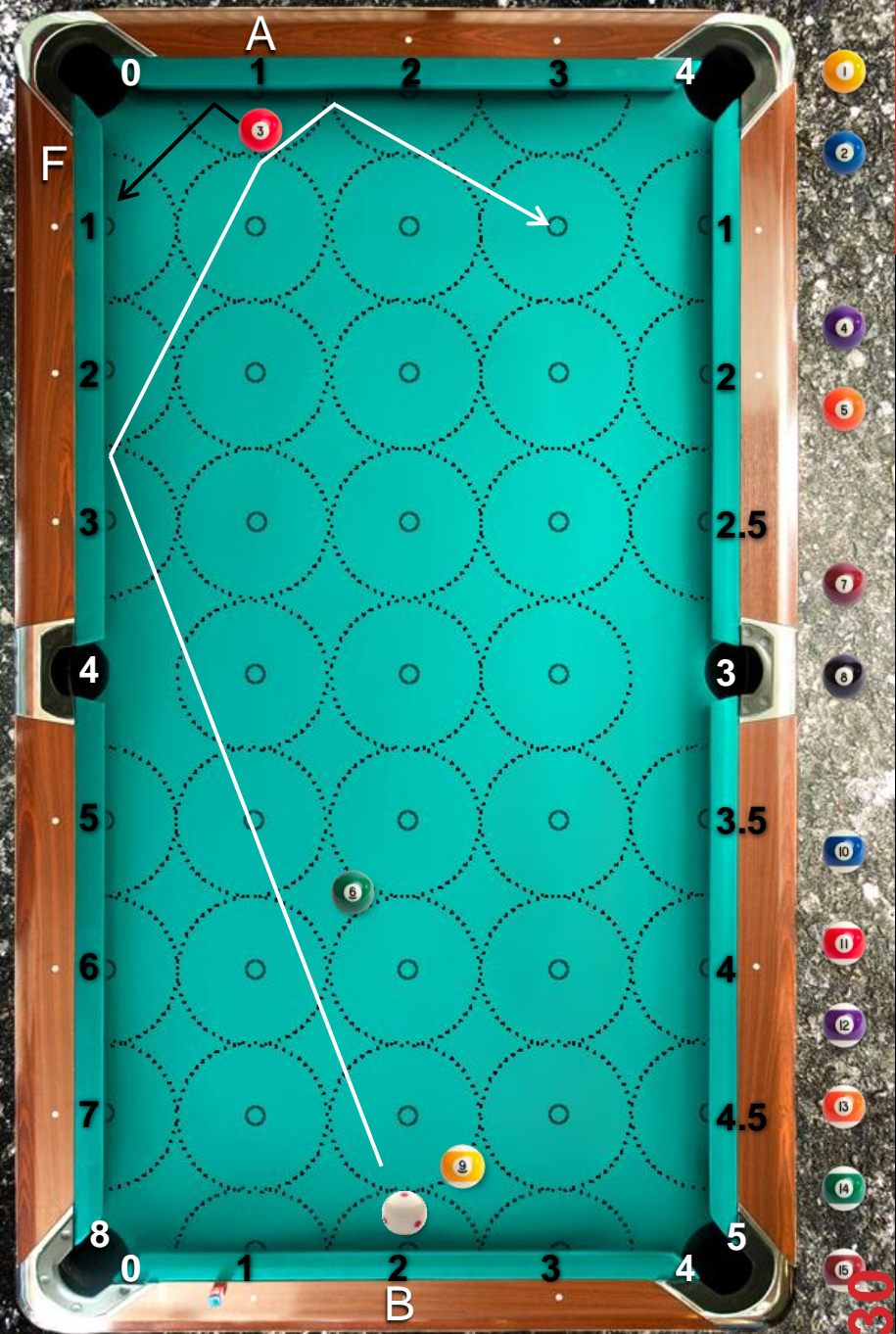
It's good for playing from close to the rail to close to the rail. The formula:

$$(A * 8) / (A + B)$$

In our example $(1 * 8) / (1 + 2) = 2,66$

Note the position is **across the diamond** not through it.

You should even be able to **make a resafe** here or at least give your opponent a bank shot.

SMALL MOON

A variation exists called **Small Moon**.

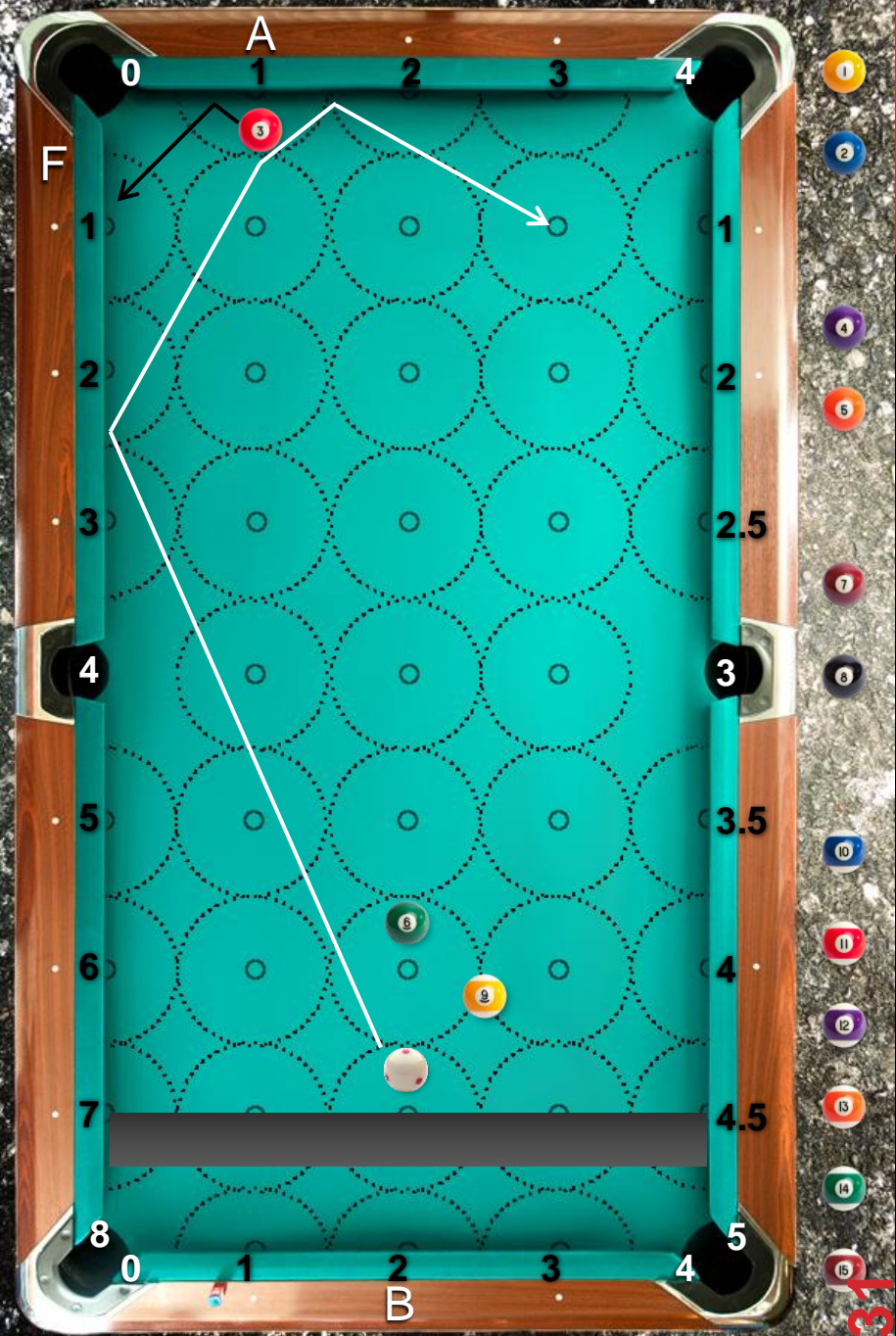Since the cue ball is not always at the bottom rail, a simple trick will help.

$$(A * 7) / (A + B)$$

In our example (1 * 7) / (1 + 2) = 2,33

Of course other distances work.

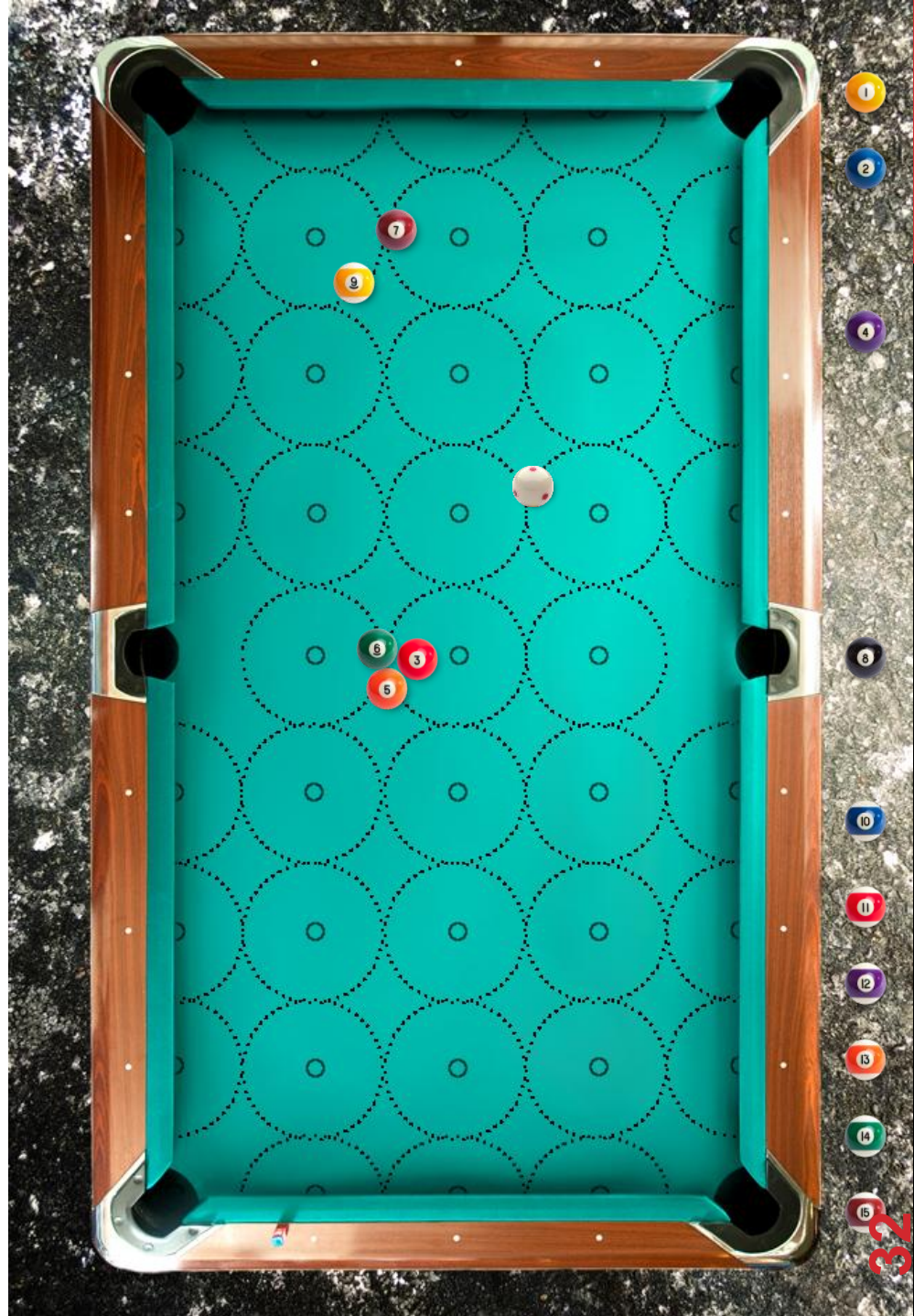Note the position is **across the diamond** not through it.

Fair enough system.

$32 SAFETY

A carom adaption for pool.
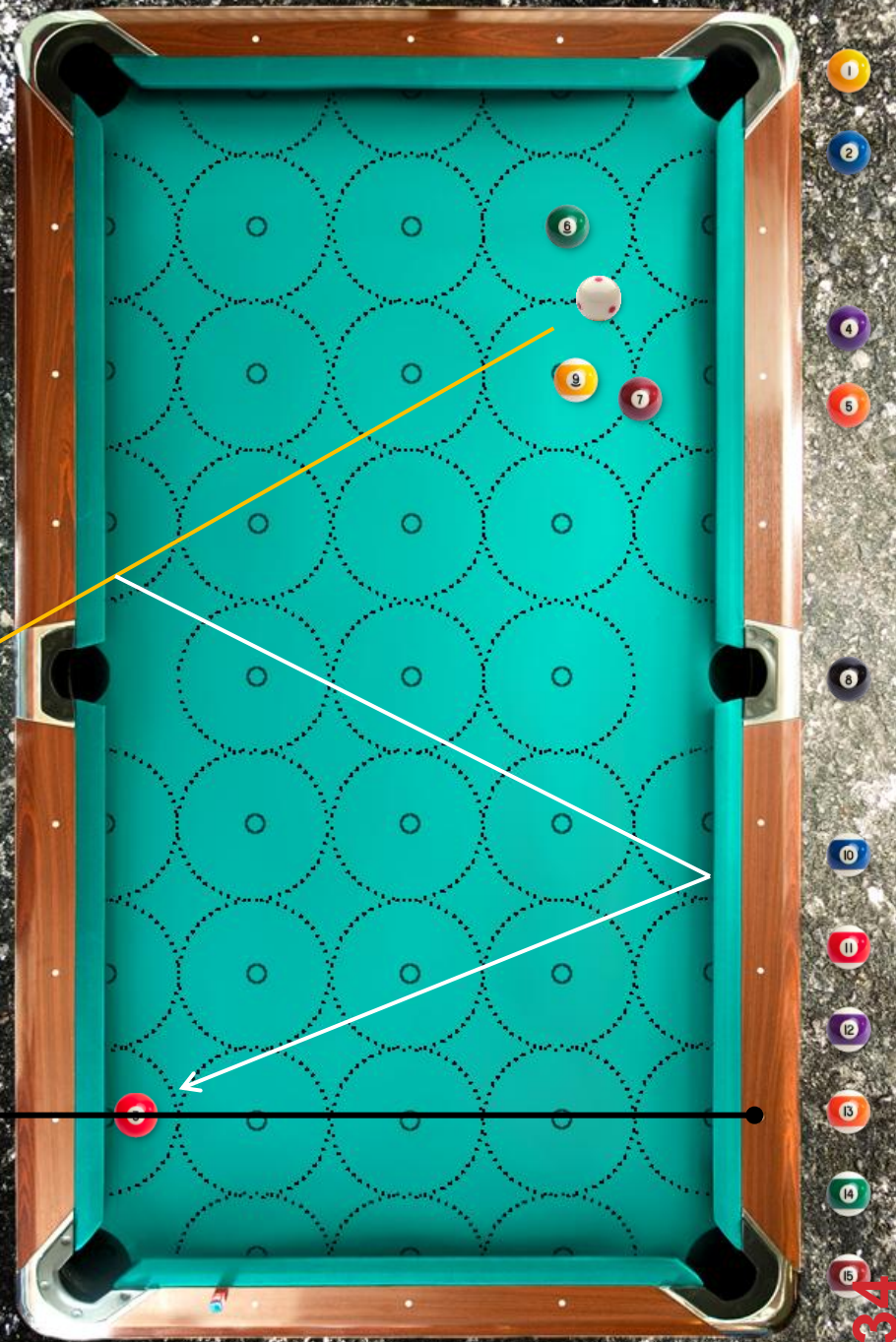
There's a chance for a safety here. No spin needed.

$32 SAFETY

A carom adaption for pool.

There's a chance for a safety here. No spin needed.

Did you see it?

THE SAIL

Named by me because it has no name.

How to aim double banks when you don't want to partition 3:3:2.

Play this fortissimo.

3 table widths

DRAWING OUT FROM THE CUSHION

There are draw shots that are not draw shots.

Seriously. You can only draw if you're playing a half ball or fuller. Otherwise what you get is not a draw.

However you can still use 6 o'clock on those thinner cut shots.

That's very useful when you have a ball frozen to the cushion. If you followed it, the cue ball would cling to the cushion, widen the angle and slow down.

With 6 o'clock you speed the balls up out from the cushion on thin cut shots.

FROZEN DRAWS

Let's look at this for safety play first. Sometimes you have a ball sitting close to the cushion and not really any shot available.

If you play the cue ball low on 6 o'clock, then:

- A **Half Ball** will hit the five

- A **Quarter** will run toward the middle pocket

- A **Ten Thin** will run across toward the corner pocket.

The „draw" **stabilizes the route** of the ball out from the pocket and **speeds it up**.
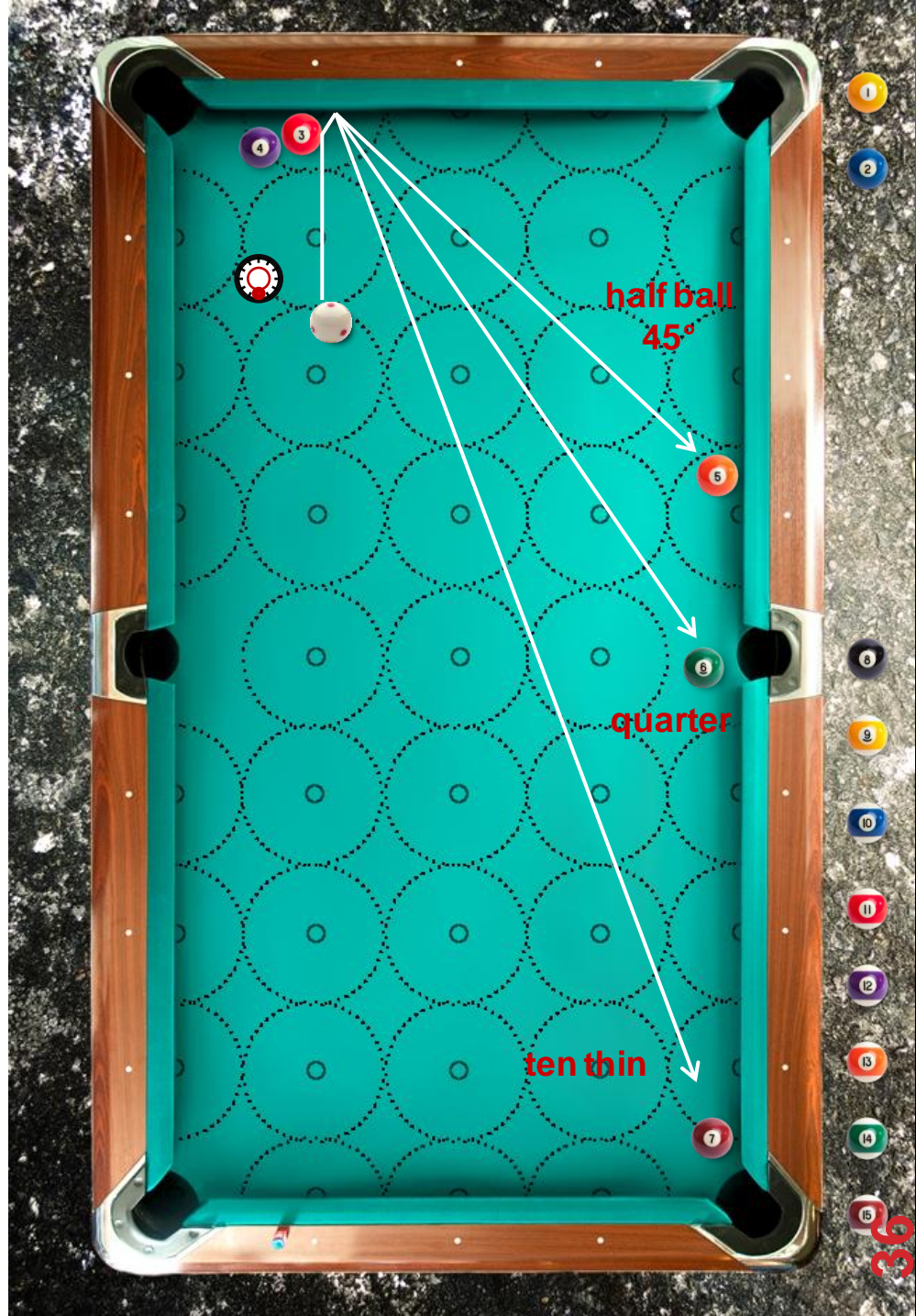
WALT GOES DISNEY WORLD

I call this **Walt goes Disney World** because it reminds me of **Walt's Long Angle Tracks** which I'll cover in the next part.

Now we can actually make that ball. The route the cue ball will take depends on the cut angle. Since we want speed, we play it at 6 o'clock. The **five is very availabl**e in both shown positions.

•A **Half Ball** will bring the cue ball down to the first diamond on the long rail.

•A **Quarter Ball** will bring it up to the third diamond on the same rail.

•With a **Ten Thin** you could even play for a long position out in the open.

Most people would try to go two rails with low left and take a rough guess.

But why would you?
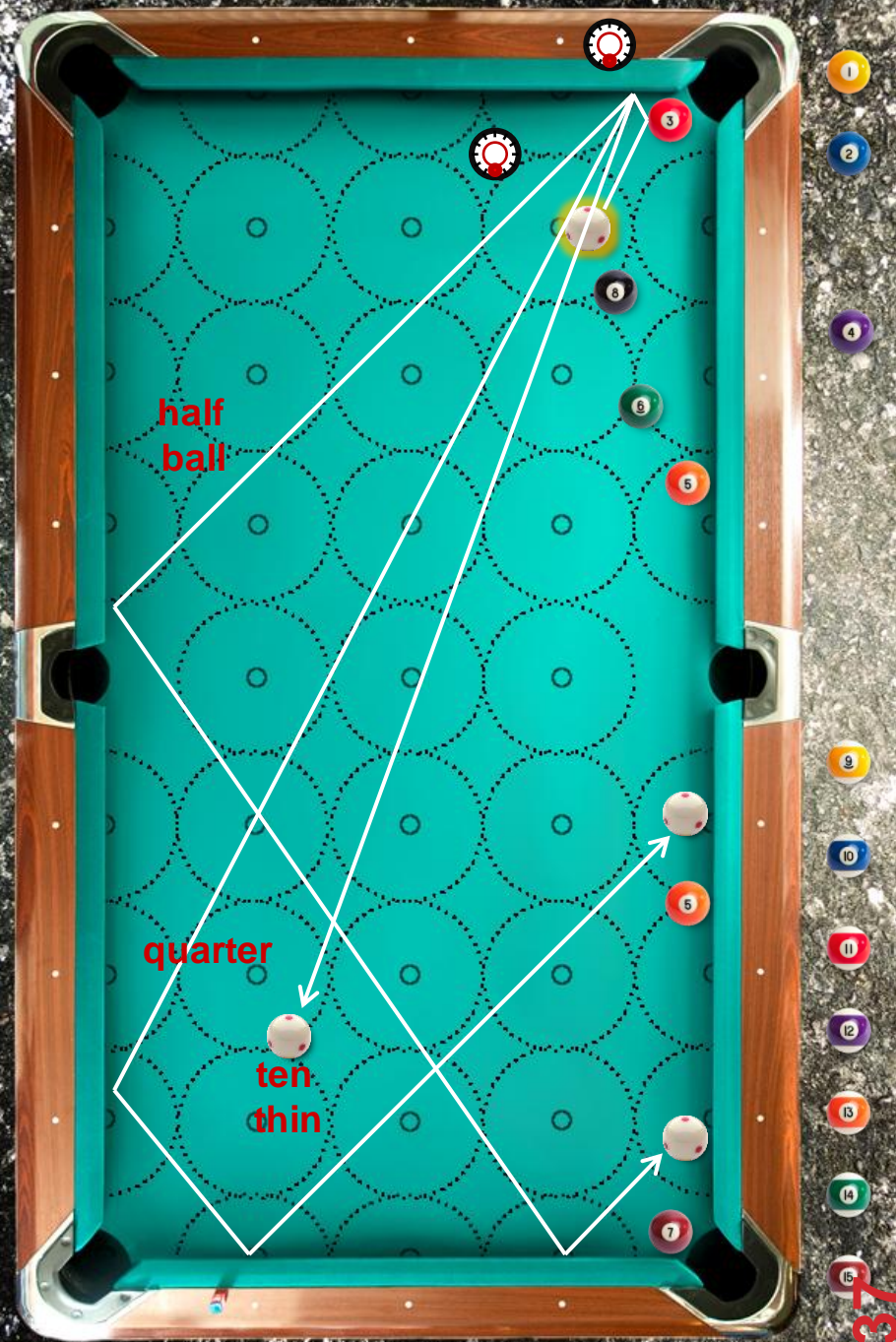
DONE ROLLING PART IV

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