

Test Time — The Answers

by BOB JEWETT



IN LAST DECEMBER'S issue, there was a quiz. Based on the questions to be used in the BCA's Instructor Certification Test, it really was a test of the test. Ten readers from four countries submitted answers. But before we announce the three winners of free subscriptions, here are a few answers — some of them mine and some supplied by the guinea pigs.

1. When a shot is played with side spin, several important effects are noticeable and may cause the shot to fail if not included in the planning for the shot. Name three of those effects, describe them and how you demonstrate them to students.

A: Squirt/deflection. At the moment the stick hits the ball, the cue ball moves away from tip, almost like a minor miscue. This can be demonstrated by placing the cue ball on the head spot, freezing an object ball to the far end rail, and using extreme English to hit rail first and play the object ball along the rail to the far corner pocket. If played fast with a level stick, the aim is to the wrong side of the object ball with a squirty stick.

Curve/swerve. The cue ball will curve on the way to the object ball. This is accentuated by shooting slow, with draw, plenty of English, and a slightly elevated stick. If the first demo is repeated with this stroke, the cue ball can land on the opposite side of the object ball.

Throw. When the cue ball contacts the object ball, the object ball doesn't travel along the line of centers (the line joining the centers of the two balls at the instant of contact), but moves to the side opposite the English. Place the cue ball about a ball diameter from an object ball and lined up to miss a far corner pocket by about half a diamond. Play straight at the object ball, but with English way out on the equator. The cue ball should stop in place, spinning, while the object ball will either find the hole or miss by a diamond.

Two other minor factors to consider on English shots are "cling" (or "skid") and miscues.

7. What conditions are necessary for the cue ball to stop dead at the instant it hits an object ball?

8. What additional condition is necessary for a stop shot (for the cue ball to remain in position after the instant of impact)?

9. Give three common things that cause the cue ball not to stop dead on a stop shot.

A: Judging from the submitted answers, these questions need to be worded more clearly. Question 9 asks only about the instant of the collision, and the requirements are that the cue ball hit the object ball squarely, and that the balls be of the same weight and of good elasticity, like new cast phenolic pool balls. For a stop shot, which concerns what the cue ball does after the instant of contact, the requirement of no follow or draw is added, and of course this probably means that the cue ball started with some draw. Common reasons that stop shots fail are that there is some cut angle, or some follow or draw, or the cue ball is in the air, or the cue ball is either light or heavy, or, as in the case of ivory, the balls are inelastic.

10. Describe the "ghost" or "phantom" ball aiming system.

11. What other systems give equivalent aiming lines?

12. For roughly what length of shot is the simple phantom ball system too inaccurate on a half-ball cut shot?

A: In the "phantom ball" system, you picture the "future" cue ball at the instant it contacts the object ball, with their line of centers going to the center of the pocket. Shoot to make the present cue ball take the place of that future cue ball. (As an aid to visualization, you can have an accomplice temporarily place an object ball in the place of the phantom cue ball.)

Other aiming systems that are equivalent — that would have you shoot the cue ball to exactly the same place but with different ways of seeing the shot — include the "inch and an eighth" system, where the target is one ball radius in front of the object ball, the parallel lines system in Mosconi's book "Winning Pocket Billiards", and the contact point system in the instruction section of the BCA Rule Book.

While these systems will get the ball somewhere close to the pocket, for shots of some length their neglect of throw ren-

ders them too inaccurate to pocket the ball. Question 12 asks at what length of shot does the system fail if it is executed with perfect accuracy and mechanics. The surprising answer is that even with generous pockets, the system starts failing for shots only a diamond and a half from the pocket.

16. In damp conditions or on dirty cloth, draw dissipates rapidly. Why?

A: About half of the respondents got this exactly backwards, saying that such conditions reduce friction. In fact, dirt, such as powder from chalk, and humidity increase the friction between the ball and the cloth, causing the draw to be rubbed off faster.

Here's a quick experiment you can try: wax the cue ball. I once asked a friend if he could make a length-of-the-table stop shot on old cloth. He kept drawing the cue ball back to the middle of the table until he realized that the secretly waxed cue ball was making the felt play like slippery new. Wax also helps when you're practicing masse shots on old cloth.

17. Describe aiming a half-ball shot. Neglecting throw, what is the cut angle for a half-ball shot?

A: This question tripped up most of those who tried it. They got the description right: the axis of the cue stick points through the center of the cue ball directly to the edge of the object ball. But they said it is a 45-degree cut when it is 30 degrees. (Imagine all three balls touching in a triangle, and recall isosceles triangles from high school geometry.) Including friction, the cut angle is slightly less than 30 degrees.

22. Approximately what fraction of pool balls are not within tolerance?

A: The allowed variation is five thousandths of an inch, and most pool balls fail. They're mostly OK fresh from the factory, but wear down in play and are illegally small within a year or two. This is most noticeable for the cue ball, which gets much more wear than any object ball. The common symptom is great draw but lousy follow, because the cue ball bounces back from the larger, heavier object balls.

The last half of the test was on the rules and their interpretation. Most people seem to get their rules by word of mouth, maybe from the old geezers down at Murphy's Bar. There are books on the rules of pool, and the one for this test was the *BCA Rules*

and Records Book. The rules have been in a state of flux for the last 20 years or so. The good news is that the BCA and the World Pool-Billiard Association have agreed to a five-year moratorium on significant changes. If you get a copy now, you'll be set into the next millennium.

30. Is a miscue a foul?

A: Maybe. On a jump shot any miscue is a foul, even if the other requirements of the shot are met. On other shots, miscues are not fouls, unless maybe the ferrule touches the cue ball on the miscue.

43. While playing a bank shot, the player places the chalk where he wants to hit on the rail, then shoots. Is that a foul?

A: This is slightly a trick question. In the *1993 Rule Book*, it was only forbidden by the general sanction against using equipment in an unusual manner. In the *1994 Rule Book*, there is Rule 3.42, which reads in part, "Illegal Marking. If a player intentionally marks the table in any way... he has fouled."

And now for the judging. It was difficult to select the winners, since there were several sets of excellent answers, and it came down to the best extra credit questions. The winners were from three different countries. An outstanding set of answers was from Victor Maduro of Panama. Perhaps Victor should have been disqualified as a professional, since he co-authored *Bola 9*, an excellent book that covers a lot more than 9-ball. The other sets of winning answers were from Daniel Artiano of San Diego and Andy McLeod in Great Britain.

If you would like a list of the 53 questions with answers or at least pointers to where you can find the answers, send a large double-stamped envelope, or just three stamps, to Bob Jewett, 962 Stony Hill Road, Redwood City CA, 94061. Allow two weeks for delivery. If you have any more questions that would be good for the Instructor Certification Test, please send those too.

In a previous issue, I described "An Experiment in Curve," in which the goal was to make an object ball curve. No one submitted results, thus the prizes are unclaimed. After hours of experimentation myself, and discussion with experts in the field, I have come to the conclusion that it is not possible to make an object ball curve significantly. (See the original column for the restrictions.) If you have gotten the shot to work, let me know and I'll do my best to make you rich and famous.

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