Question #54

An experimenter walks briskly with a ball in one hand, and attempts to release the ball so that it will fall into a bucket, as aptly illustrated by Gwen in the photograph below.

The question is where one must release the ball in order for it to fall into the bucket. Gwen has released the ball, and it is falling in the photograph, but whether it will fall into the bucket is not certain. As you walk along, must you release the ball before or after the position in which Gwen is photographed? Must you wait until your hand is directly above the bucket, or slightly beyond that point, due to the effect of conservation of momentum between your hand and the ball at the time when it is released?

In order for the ball to fall into the bucket, you must release it:

- (a) somewhere to the left of where Gwen is in the picture.
- (b) somewhere to the right of where Gwen is in the picture, but not as far as the bucket.
- (c) when your hand is directly above the bucket.
- (d) when your hand is just past the center of the bucket.

Click here for Answer #54 after March 5, 2001.

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For questions and comments regarding the *Question of the Week* contact
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