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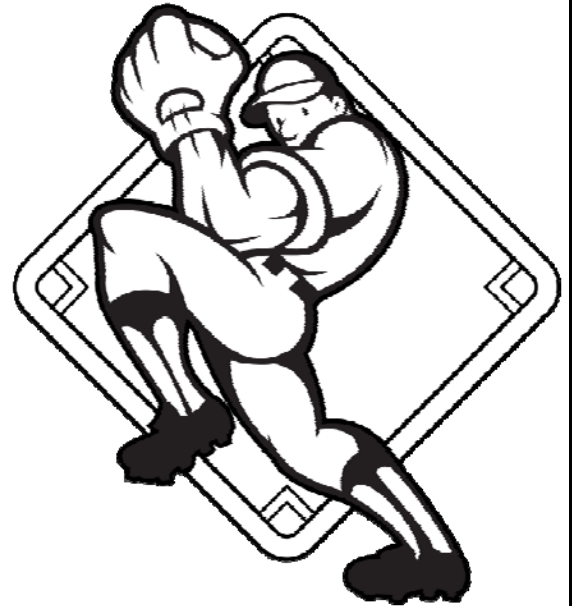
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Mixed Probability Lesson

Mike, Raymond, and Sandy collect baseball cards. Their favorite baseball card shop is having a prize give away. With the purchase of \$20 or more, you get to spin the prize wheel.

There are 10 slots on the prize wheel of equal size. Each slot of the prize is for a different prize.

If Mike, Raymond, and Sandy all spin the prize, what is the probability that each person lands on a different prize?



Explanation: These are dependent events. Let's the boys each went in the same order that they were presented in:

Mike would have a 10 out of 10 $\left(\frac{10}{10}\right)$ chance of landing on a unique prize. This is because every prize is unique.

Raymond would have a 9 out of 10 $\left(\frac{9}{10}\right)$ chance of landing on a unique prize. This is because there is a 1 out of 10 chance of landing on Mike's prize.

Sandy would have a 8 out of 10 $\left(\frac{8}{10}\right)$ chance of landing on a unique prize. This is because there is a 2 out of 10 chance of landing on Mike's or Raymond's prize.

The overall probability would be: P(Mike and Raymond and Sandy)

$$P(\text{Mike and Raymond and Sandy}) = \frac{10}{10} \times \frac{9}{10} \times \frac{8}{10} = \frac{720}{1000} = \frac{18}{25} = 0.72$$

