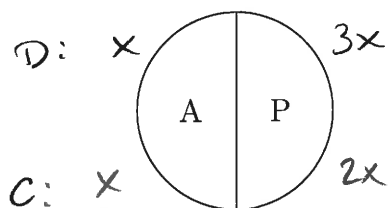


Name: Solutions

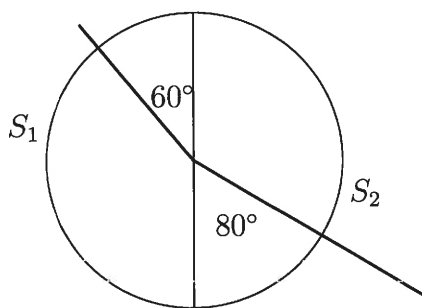
Quiz 6

1. Two people decide to use "I cut, you choose" to divide a pie that is half apple and half peach.



D likes peach three times as much as apple. C likes peach twice as much as apple.

Suppose D divides the pie this way:



What fraction of the pie does C think  $S_1$  is worth?

$$\begin{aligned} \text{to C } S_1 &= \frac{120x + 80(2x)}{180x + 180(2x)} = \frac{120x + 160x}{180(3x)} = \frac{280x}{180(3)x} = \frac{28}{18(3)} \\ &= \frac{14}{9(3)} = \frac{14}{27} \end{aligned}$$

Which piece does each player get? C -  $S_1$  D -  $S_2$

Is this division fair?

Yes.

Is this division equitable? Why?

No.  $\frac{14}{27} \neq \frac{1}{2}$

2. True or False: If  $N = 2$ , it is possible to have a fair division in which A envies B.

False.