

Name: Solutions

### Quiz 3

A, B and C inherit a painting. These are their values for the painting:

$$a = \$240 \quad b = \$60 \quad c = \$300$$

Assume A gets the painting and compensates B and C with money. Find an equitable arrangement, and then answer the questions below.

$$q = \frac{240}{600} = \frac{24}{60} = \frac{4}{10}$$

$$X_A = 240 \left(\frac{4}{10}\right) = 24(4) = 96$$

$$X_B = 60 \left(\frac{4}{10}\right) = 6(4) = 24$$

$$X_C = 300 \left(\frac{4}{10}\right) = 30(4) = 120$$

1. Fill in the blanks:  $X_A = \underline{96}$      $X_B = \underline{24}$      $X_C = \underline{120}$

2. Does C envy B? Why?

No,  $120 > 24$

3. Does C envy A? Why?

C thinks A got  $300 - 120 - 24 = 156$   
and  $156 > 120$ , so Yes.

4. True or False: When there are 4 players, every fair arrangement is envy-free. False.