

Name:

Quiz 3

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

$$a = \$8,000 \quad b = \$10,000 \quad c = \$10,000 \quad d = \$12,000$$

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

1. Fill in the blanks: $X_A =$ _____ $X_B =$ _____ $X_C =$ _____ $X_D =$ _____

2. Does D envy A? Why?

3. Does D envy C? Why?

4. True or False: Any arrangement for 2 people that is fair must also be envy-free.

Name: Solutions

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$$q = \frac{8000}{40,000} = \frac{1}{5} = \frac{2}{10}$$

$$X_A = \frac{2}{10}(8000) = 1600$$

$$X_B = X_C = \frac{2}{10}(10000) = 2000$$

$$X_D = \frac{2}{10}(12000) = 2400$$

$$\text{check: sum} = 1600 + 2000 + 2400 \\ = 8000 \checkmark$$

1. Fill in the blanks: $X_A = \underline{1600}$ $X_B = \underline{2000}$ $X_C = \underline{2000}$ $X_D = \underline{2400}$

2. Does D envy A? Why?

D thinks A got $12000 - 6400 = 5600$
yes, D envies A.

3. Does D envy C? Why?

No, $2400 > 2000$.

4. True or False: Any arrangement for 2 people that is fair must also be envy-free. True.