

## Inequality Worksheets

1. Connor went to the county fair with \$22.50 in his pocket. He bought a hot dog and drink for \$3.75 and then wanted to spend the rest of his money on ride tickets, which cost \$1.25 each.

a) Write an inequality to represent the total spent where  $r$  is the number of tickets purchased.

b) Connor wants to use this inequality to determine whether he can purchase 10 tickets. Use substitution to show whether he will have enough money.

c) What is the total maximum number of tickets he can buy based upon the given information?

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a) Write an inequality to represent the total spent where  $r$  is the number of tickets purchased.

$$1.25r + 3.75 \leq 22.50$$

b) Connor wants to use this inequality to determine whether he can purchase 10 tickets. Use substitution to show whether he will have enough money.

$$1.25r + 3.75 \leq 22.50$$

$$1.25(10) + 3.75 \leq 22.50$$

$$12.5 + 3.75 \leq 22.50$$

$$16.25 \leq 22.50$$

*True. He will have enough money since a purchase of 10 tickets brings his total spending to \$16.25.*

c) What is the total maximum number of tickets he can buy based upon the given information?

$$1.25r + 3.75 \leq 22.50$$

$$1.25r + 3.75 - 3.75 \leq 22.50 - 3.75$$

$$1.25r + 0 \leq 18.75$$

$$\left(\frac{1}{1.25}\right)(1.25r) \leq \left(\frac{1}{1.25}\right)(18.75)$$

$$r \leq 15$$

*The maximum number of tickets he can buy is 15.*