Activity 2

1. Using the table you created relating the price of bus tokens, fries, and total amount spent, find the number of tokens and fries Pat can buy with 32 dollars. Fill in the following table to show different numbers of bus tokens and fries he could buy with his allowance.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Price/fries | Number of fries | Price/token | Number of tokens | Total Spent |
| $1 | 32 | $2 | 0 | $32 |
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|  |  |  |  |  |
|  | *x* |  | *y* |  |

1. Create a graph with axes showing the number of fries and the number of bus tokens. Scale the x-axis for the number of fries and the y-axis for the number of bus tokens. Be sure to label each axis.
2. a. Find the number of fries Pat could buy if he spent all his money on fries.
3. What point could you plot on the graph that represent how Pat spent his money?
4. What does the point represent in terms of fries and bus tokens?
5. a. Find the number of bus tokens Pat could buy if he spent all his money on bus tokens.
6. What point could you plot on the graph that represents how Pat spent his money.
7. What does the point represent in terms of fries and bus tokens?
8. Create a table and plot any other points that represent combinations of fries and tokens that Pat could buy.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***x*** |  |  |  |  |  |  |  |  |  |
| ***y*** |  |  |  |  |  |  |  |  |  |

1. Draw a line that represents all the combinations of fries and bus tokens Pat can buy with 32 dollars.
2. The line you drew is the limit for the number of fries and bus tokens Pat can purchase to with his allowance of 32 dollars. This line represents Pat’s **budget constraint**.

What is the equation of this line?

1. What does 1*x* represent in the equation?
2. What does 2y represent in the equation?
3. What does the point (6,10) on your graph represent in terms of bus tokens and fries Pat can purchase?
4. Can Pat purchase 10 fries and 10 bus tokens? How do you know?
5. Can Pat purchase 10 fries and 20 bus tokens? How do you know?
6. How would the budget constraint line be transformed if the cost of fries went up to $2? Show the change on the graph below.
7. How many times can Pat hang out with Sam each month given his new budget constraint?