**Activity 1 – Answer Key**

Pat has started hanging out with Sam. Sam has no money; however, Sam enjoys fries. Pat offers to ride the city bus to Sam’s house where Pat gets off of the bus. Both Pat and Sam get on another bus to ride together to Freddy’s Fry Shack to hangout (i.e., sit and talk). Below is a map of the streets between Pat and Sam houses and Freddy’s Fry Shack.

1. Trace a bus route from Pat’s house to Sam’s house and then another bus route to Freddy’s Fry Shack. Each time a person rides the bus, someone must pay the fare to ride, which is the price of a bus token.



1. What else would you need to know to find how much Pat will need to spend to take Sam to Freddy’s Fry Shack if Pat pays for everything?

**Price of transportation, price of fries.**

1. Each time Pat or Sam gets on the bus each must have a $2.00 token. The price of a small order of fries at Freddy’s Fry Shack is $1.00. (Note: other sizes of fries are not an option at Freddy’s Fry Shack.)

How much will Pat spend on bus tokens? **6($2) = $12 (Four for Pat and two for Sam)**

How much will Pat spend on the fries if each gets one order of fries? **2($1) = $2**

1. Prices and Income: In the table below the first column contains different quantities of bus tokens and the bottom row contains different quantities of fries Pat might buy. Find out how much Pat would spend to buy different combinations of fries and tokens and enter the amount in each cell. For example if Pat buys two fries and 10 bus tokens the total he will spend is $1(2)+ $2(10) = 22.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Quantity of Bus Tokens tokesy | 20 |  | **40** | **42** | **44** | **46** | **48** | **50** | **52** | **54** | **56** | **58** | **60** | **62** | **64** | **66** | **68** | **70** | **72** |
| 18 |  | **36** | **38** | **40** | **42** | **44** | **46** | **48** | **50** | **52** | **54** | **56** | **58** | **60** | **62** | **64** | **66** | **68** |
| 16 |  | **32** | **34** | **36** | **38** | **40** | **42** | **44** | **46** | **48** | **50** | **52** | **54** | **56** | **58** | **60** | **62** | **64** |
| 14 |  | **28** | **30** | **32** | **34** | **36** | **38** | **40** | **42** | **44** | **46** | **48** | **50** | **52** | **54** | **56** | **58** | **60** |
| 12 |  | **24** | **26** | **28** | **30** | **32** | **34** | **36** | **38** | **40** | **42** | **44** | **46** | **48** | **50** | **52** | **56** | **58** |
| 10 |  | **20** | **22** | **24** | **26** | **28** | **30** | **32** | **34** | **36** | **38** | **40** | **42** | **44** | **46** | **48** | **50** | **52** |
| 8 |  | **16** | **18** | **20** | **22** | **24** | **26** | **28** | **30** | **32** | **34** | **36** | **38** | **40** | **42** | **44** | **46** | **48** |
| 6 |  | **12** | **14** | **16** | **18** | **20** | **22** | **24** | **26** | **28** | **30** | **32** | **34** | **36** | **38** | **40** | **42** | **44** |
| 4 |  | **8** | **10** | **12** | **14** | **16** | **18** | **20** | **22** | **24** | **26** | **28** | **30** | **32** | **34** | **36** | **38** | **40** |
| 2 |  | **4** | **6** | **8** | **10** | **12** | **14** | **16** | **18** | **20** | **22** | **24** | **26** | **28** | **30** | **32** | **34** | **36** |
| 0 |  | **0** | **2** | **4** | **6** | **8** | **10** | **12** | **14** | **16** | **18** | **20** | **22** | **24** | **26** | **28** | **30** | **32** |
|  |  |  | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 |
|  | Quantity of Fries | | | | | | | | | | | | | | | | |

1. What patterns did you notice as you filled in the table?
   1. As you increased the number of fries for a given number of bus tokens what happens to the total amount spent? **The total increases by 2 dollars for each additional 2 fries.**

* 1. As you increased the number of bus tokens for a given number of fries what happens to the total amount spent? **The total increases by 4 dollars for each additional 2 bus tokens.**

* 1. If you increase the number of fries by two and the number of bus tokens by two, how much does the total amount spent increase? **The total increases by 6 dollars.**