**AWalk-a-Thon**

Raul’s school decided to participate in a walk-a-thon to raise money for a local charity. His homework last night was to get pledges and bring them back to class. Three of Raul’s aunts said they would each pledge $4.50 for his participation and then $1.50 for every mile that Raul walked. His classmate Casey got her grandfather to pledge $200 for the walk-a-thon. His friend Thanoj got his mother and sister to each pledge $8.00 for every mile that he completed.

1. If we let *m =* miles walked, then the expression: 3(4.50 + 1.50*m*) describes the amount of money pledged to Raul. Briefly explain why this expression models his pledge amount.
2. Write expressions for Casey’s and Thanoj’s pledges.
3. In your opinion, which of the three students received the “best” pledge? Briefly justify your answer.
4. Anyone who earns more than $100 receives an iTunes gift card. How many miles would Raul need to walk to earn the gift card? Explain how your answer.
5. How many miles would Thanoj need to walk to earn the gift card? Does either Raul or Thanoj have a realistic chance?
6. How many miles would Raul need to walk to collect the same amount in pledges as Casey? Briefly explain your strategy.
7. How many miles would Thanoj and Raul have to walk to both earn the same amount of money?
8. The graphing calculator can also be used to explore the three students’ pledges. Put Raul’s pledge expression into *Y*1, Casey’s into *Y*2, and Thanoj’s into *Y*3. Use the table feature of the graphing calculator to solve problems 3 – 7. Copy values from the tables in the graphing calculator into the tables below. Then explain how the values in the tables may be used to answer these problems.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Raul** | |  | **Casey** | |  | **Thanoj** | |
| ***x*** | ***y*** |  | ***x*** | ***y*** |  | ***x*** | ***y*** |
| 0 |  |  | 0 |  |  | 0 |  |
| 1 |  |  | 1 |  |  | 1 |  |
| 2 |  |  | 2 |  |  | 2 |  |
| 3 |  |  | 3 |  |  | 3 |  |
| 4 |  |  | 4 |  |  | 4 |  |
| 5 |  |  | 5 |  |  | 5 |  |

1. Graph the three equations together in the same window. Use the window settings below. Does the graph verify your predictions? How is using a graph similar to using a table? How is it different?

