Water Problems

For these problems you will be examining the terrain people walk to get to their water supply.

Open the problem’s folder in the sidebar menu. Select the path to the water by control-clicking on “path” in the sidebar menu if you have a Mac, or Right-click if you have a PC. Select: *Show Elevation Profile*. If you move your cursor in the graphing window that appears, you will notice that a red arrow will appear above at the corresponding point on the path in the main window above.

**Complete the tables for the following two problems using the elevation profiles.**

1. Position the red arrow below each lettered placemark and record the elevation.
2. Determine the change from one point to the next and record the difference.
3. Be sure to include a “+” for an elevation gain and a “–“ for a loss in elevation.

**Burkina Faso Nepal village A**

|  |  |  |
| --- | --- | --- |
|  | **Elevations** | **+/- difference** |
| A |  |  |
|  |  |  |
| B |  |  |
|  |  |  |
| C |  |  |
|  |  |  |
| D |  |  |
|  |  |  |
| E |  |  |
|  |  |  |
| F |  |  |
|  |  |  |
| G |  |  |
|  |  |  |
| H |  |  |

|  |  |  |
| --- | --- | --- |
|  | **Elevations** | **+/- difference** |
| A | 261 m |  |
|  |  | + 3 |
| B | 264 m |  |
|  |  | + 3 |
| C | 267 m |  |
|  |  |  |
| D |  |  |
|  |  |  |
| E |  |  |
|  |  |  |
| F |  |  |
|  |  |  |
| G |  |  |
|  |  |  |
| H |  |  |
|  |  |  |
| I |  |  |
|  |  |  |
| J |  |  |
|  |  |  |
| K |  |  |

Total difference:

Total difference:

**Of course, you realize that once the water is gathered it must be hauled back to the village. The weight of the water carried could be 10-50 lbs. What does the return trip look like?**

**Nepal village B**

Complete the tables for the three paths using their elevation profiles. You’ll find the values at the top of the elevation profile window. Make sure you record the correct numbers.

**Path #1**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Minimum elevation** |  | **Distance** |  | **Elevation gain** | + | **Average slope** | + |
| **Maximum elevation** |  | **X 2 = Total** |  | **Elevation loss** | – | **Average slope** | –  |

**Path #2**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Minimum elevation** |  | **Distance** |  | **Elevation gain** | + | **Average slope** | + |
| **Maximum elevation** |  | **X 2 = Total** |  | **Elevation loss** | – | **Average slope** | –  |

**Path #3**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Minimum elevation** |  | **Distance** |  | **Elevation gain** | + | **Average slope** | + |
| **Maximum elevation** |  | **X 2 = Total** |  | **Elevation loss** | – | **Average slope** | –  |

Best path choice?

Worst path choice?

**Nepal village C**

For this problem you are trying to determine the best path to the river from village C and back. What factors would you weigh the most? Slope? Distance? You may take another route for your return trip if you wish. You’re loaded with water now; would you change your strategy?

Use the path tool to draw several paths and examine the elevation profiles of each. Experiment with different routes and discuss their merits. Use the tables below to record values from the elevation profiles.

**Be sure to save your path in your *My Places* to share with others.**

**Path #1**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Minimum elevation** |  | **Distance** |  | **Elevation gain** | + | **Average slope** | + |
| **Maximum elevation** |  | **X 2 = Total** |  | **Elevation loss** | – | **Average slope** | –  |

**Path #2**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Minimum elevation** |  | **Distance** |  | **Elevation gain** | + | **Average slope** | + |
| **Maximum elevation** |  | **X 2 = Total** |  | **Elevation loss** | – | **Average slope** | –  |

**Path #3**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Minimum elevation** |  | **Distance** |  | **Elevation gain** | + | **Average slope** | + |
| **Maximum elevation** |  | **X 2 = Total** |  | **Elevation loss** | – | **Average slope** | –  |

