

Raster Math

1. Put an X in each cell that would have both sandy soil and a percent slope greater than 5. (5 points)

| | | |
|---|---|---|
| 2 | 3 | 8 |
| 1 | 4 | 7 |
| 2 | 6 | 6 |

| | | |
|---|---|---|
| C | C | R |
| S | c | R |
| S | S | S |

Slope (%)

Soil type: S = sandy, C = clay, R = rocky

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| | | |

2. Populate the cells with 0 (False) or 1 (True) based on the following expression:
Cell Value > 11. (5 Points)

| | | |
|----|----|----|
| 13 | 11 | 6 |
| 8 | 12 | 15 |
| 2 | 7 | 9 |

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3. In a categorical raster, the cell values are coded as follows: 10 = Water, 20 = Developed, 40 = Forest, 70 = Pasture, 80 = Wetland. You would like to reclassify the raster so that non-forest cells are coded as 1 and forest cells are coded as 2. Perform this operation (ND = NoData). (5 Points)

| | | |
|----|----|----|
| 20 | 40 | ND |
| 20 | 40 | 40 |
| 70 | 70 | 70 |

| | | |
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4. Perform the following raster math (ND = NoData): (5 Points)

| | | |
|---|----|----|
| 3 | ND | 1 |
| 2 | ND | 5 |
| 6 | 4 | ND |



| | | |
|----|----|---|
| ND | 6 | 3 |
| 1 | 3 | 5 |
| ND | ND | 4 |

| | | |
|--|--|--|
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5. Each cell in the raster below is multiplied by 2. Find the resulting values (ND = NoData). (5 Points)

| | | |
|---|----|---|
| 8 | ND | 1 |
| 3 | ND | 2 |
| 6 | 7 | 9 |

| | | |
|--|--|--|
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6. A total of 675 raster grid cells are coded as wetland. The raster cell size is 15 meters x 15 meters. Find the area of wetlands in hectares.