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**DIBL**

**UNIT CODE: BMA 3207: NUMERICAL ANALYSIS**

1. Construct the backward difference table for the data below. (7mks)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | -1 | 0 | 1 | 2 |
| f(x) | -8 | 3 | 1 | 12 |

1. Using Newton’s backward difference interpolation at x=1.0 from the following data. (13mks)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | 0.1 | 0.3 | 0.5 | 0.7 | 0.9 | 1.1 |
| f(x) | -1.699 | -1.1073 | -0.375 | 0.443 | 1.429 | 2.631 |

a). Find dy/dx at x=1 from the following table of values. (10mks)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | 1 | 2 | 3 | 4 |
| y | 1 | 8 | 27 | 64 |

**ALL THE BEST**