Unit 3: Relations, functions, and graphs

Table, Graph, Formula

(Chapter 3, page 104)

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|  | Relation is set of ordered pairs.Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_---- Examples: | DefinitionPage 107 |
|  | **Graph**Terms to know:---- Cartesian coordinate system; Origin ---- Quadrants---- x-axis, y-axis---- Coordinate of a point ---- x-coordinate, abscissa ; y-coordinate, ordinate | Page 110 |
|  | **Function**Relation in which each input has exactly one output.---- Vertical line test | Page 117(plot examples in the next table cell) |
|  | **One-to-One function**Function in which each output originated from exactly one input.---- Horizontal line test |  |

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|  | Plot an example of a relation, a function, and one-to-one function. Relation Function One-to-one function Domain:Range:Vertical line test:Horizontal line test: |
|  | Function composition$f\left(x\right)=3x+5 $ ; $ g\left(x\right)=x+2 $$f\left(g\left(x\right)\right)= \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_ $  ( Hint: $f\left(∎\right)=3∎+5$ , and $∎=x+2$) $g\left(f\left(x\right)\right)= \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_ $ Notation: $ f\left(g\left(x\right)\right)=f∘g$ | DefinitionPage 149 |

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