

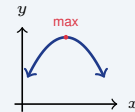
# Interpreting Graphs of Functions

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Score: \_\_\_\_\_ / 18

## Quick Review and Helpful Hints

A graph tells a story. Where it *rises* left to right, the function is increasing; where it *falls*, it is decreasing; *flat* means constant. The *y*-intercept is the starting value, and the highest or lowest points are the maximum or minimum.

▶ **Example:** A graph rises from left to right. Is the function increasing or decreasing? **Work:** As  $x$  gets larger,  $y$  gets larger too, so the graph is going up.  
 ★ **Answer:** Increasing



Rises, peaks (max), then falls.

### Practice Problems

Answer each question about a graph.

- |   |       |   |       |
|---|-------|---|-------|
| 1. Graph rises left-to-right: increasing or decreasing? | _____ | 8. A line with positive slope is?                   | _____ |
| 2. Graph falls left-to-right: which?                    | _____ | 9. A line with negative slope is?                   | _____ |
| 3. A flat horizontal graph is?                          | _____ | 10. The value of a function at $x = 0$ is its?      | _____ |
| 4. Where a graph crosses the $y$ -axis is the?          | _____ | 11. A U-shaped parabola opening up has a?           | _____ |
| 5. The highest point of a graph is the?                 | _____ | 12. A graph that peaks then falls has a?            | _____ |
| 6. The lowest point is the?                             | _____ | 13. On a distance-time graph, a steeper line means? | _____ |
| 7. Where a graph crosses the $x$ -axis, $y = ?$         | _____ | 14. Where a profit graph crosses zero, profit =?    | _____ |

### Word Problems

15. A runner's distance-time graph is flat for a while. What is the runner doing?  
 \_\_\_\_\_
16. A temperature graph rises all morning. The temperature is doing what?  
 \_\_\_\_\_
17. A ball's height graph goes up then down. What is the top point called?  
 \_\_\_\_\_
18. Where a profit graph crosses zero (break-even), the profit equals what?  
 \_\_\_\_\_



## Answer Keys

- |                   |                    |                |
|-------------------|--------------------|----------------|
| 1. Increasing     | 7. 0               | 13. faster     |
| 2. Decreasing     | 8. Increasing      | 14. 0          |
| 3. Constant       | 9. Decreasing      | 15. resting    |
| 4. $y$ -intercept | 10. $y$ -intercept | 16. Increasing |
| 5. maximum        | 11. minimum        | 17. maximum    |
| 6. minimum        | 12. maximum        | 18. 0          |

### Step-by-Step Explanations

**1.** Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Rising means  $y$  grows as  $x$  grows: increasing. So the final answer is Increasing.

**2.** A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Falling means  $y$  drops as  $x$  grows: decreasing. So the final answer is Decreasing.

**3.** Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is No change in height means constant. So the final answer is Constant.

**4.** Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is That crossing point is the  $y$ -intercept. So the final answer is  $y$ -intercept.

**5.** Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The peak is the maximum. So the final answer is maximum.

**6.** A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The bottom is the minimum. So the final answer is minimum.

**7.** Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is On the  $x$ -axis the height is 0. So the final answer is 0.

**8.** Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Positive slope goes up: increasing. So the final answer is Increasing.

**9.** Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Negative slope goes down: decreasing. So the final answer is Decreasing.

**10.** A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is At  $x = 0$  the output is the  $y$ -intercept. So the final answer is  $y$ -intercept.

**11.** Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is An upward U has a lowest point: minimum. So the final answer is minimum.

**12.** Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is A peak before falling is a maximum. So the final answer is maximum.

**13.** Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is A steeper line covers distance faster. So the final answer is faster.

**14.** A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is On the  $x$ -axis the value is 0. So the final answer is 0.

**15.** Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is A flat distance graph means no motion: resting. So the final answer is resting.

**16.** Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Rising temperature means increasing. So the final answer is Increasing.

**17.** Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The top of the path is the maximum. So the final answer is maximum.

**18.** A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Break-even means profit = 0. So the final answer is 0.



# Keep Building DAT Quantitative Reasoning Math Skills

Recommended Effortless Math resources

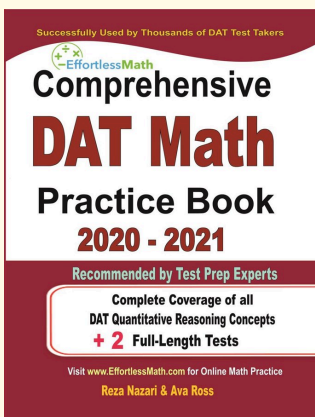


## DAT Quantitative Reasoning Preparation



Scan Me  
Download Instantly

### STUDENT FAVORITE - Comprehensive DAT Math Practice Book



## Comprehensive DAT Math Practice Book

Step-by-step lessons, topic practice, and full review support for students who want a calm path through DAT Quantitative Reasoning Math preparation.

A strong companion for self-study, tutoring, homework, and targeted review.

PDF Edition



Scan Me  
Download Instantly