Name

Class

Date



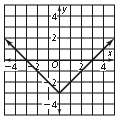
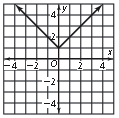
Graphing Absolute Value Functions

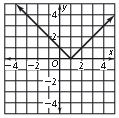
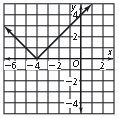
5-8

**Practice**

*Form G*

**Describe how each graph is related to *y*** = **|*x*|.**

1.  2. 

3.  4. 

**Graph each function by translating *y* =** **|*x*|.**

|  |  |  |
| --- | --- | --- |
| **5.** *y* = |*x*| + 3 | **6.** *y* = |*x*| − 2 | **7.** *y* = |*x*| − 1.5 |

**Write an equation for each translation of *y =*** **|*x*|.**

|  |  |  |
| --- | --- | --- |
| **8.** 2 units down | **9.** 1 unit up | **10.** 1.18 units up |

**Graph each function by translating *y =*** **|*x*|.**

|  |  |  |
| --- | --- | --- |
| **11.** *y* = |*x* + 6| | **12.** *y* = |*x* − 5| | **13.** *y* = |*x* + 3.2| |

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Graphing Absolute Value Functions

**5-8**

**Practice** (continued)

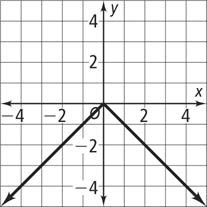
*Form G*

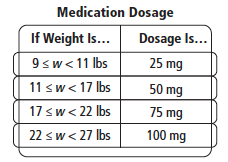
**Write an equation for each translation of *y =*** **|*x*|.**

|  |  |  |
| --- | --- | --- |
| **14.** left 7 units | **15.** | **16.** |

**At the right is the graph of *y =*** 2**|*x*|. Graph each function by translating *y =*** −**|*x*|.**

|  |  |  |  |
| --- | --- | --- | --- |
| **17..** | *y =* −|*x* + 2| | **18.** | *y =* −|*x*| − 2 |



**19.** The table at the right shows the dosage of a certain medication for a child’s weight, w. Graph the step function for this information.

**20. Reasoning** Examine the expressions |*m* − *n*| and |*n* − *m*|. Substitute *m =* 2 and *n =* 3 in each expression and simplify. Now, substitute *m =* 3 and *n =* 2 in each expression and simplify. Repeat this process with 3 other sets of numbers for *m* and *n*. What is your conclusion?

**21. Writing** Can the absolute value of a number equal a negative number?  
Explain your reasoning.

**Graph each translation of *y =*** **|*x*|. Describe how the graph is related to the graph of *y =*** **|*x*|.**

|  |  |
| --- | --- |
| **22.** *y =* |*x +* 3| − 2 | **23.** *y =* |*x* − 2| + 4 |

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