Absolute Value Functions

Given the parent function $f(x) = |x|$, write a new equation for the following transformations. Then find the domain and range.
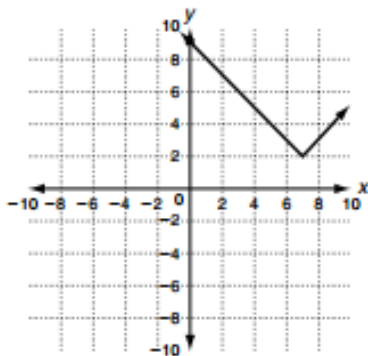
1. Left 2

2. Vertex at (0, 5)

3. Right 4, Up 5
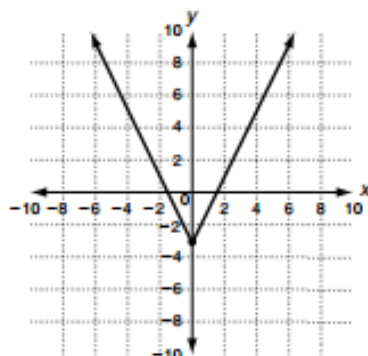
4. Vertex at (-1, 9)

5. Right 2, Down 12

6. Vertex at (-15, -8)
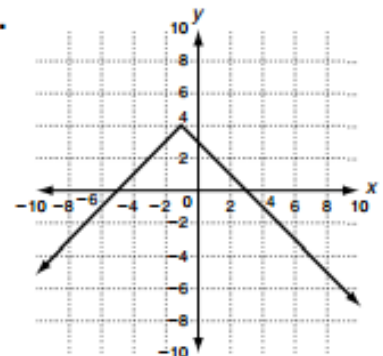
Write an absolute value equation for each graph.

7.

8.

9.

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Given the function $f(x) = |x + 3|$, write a new equation for the following transformations of that function. Then find the new function's domain and range.
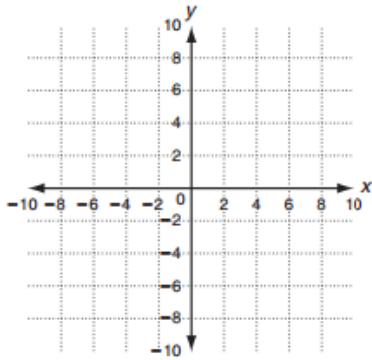
10. Down 7

11. Up 5, Right 8

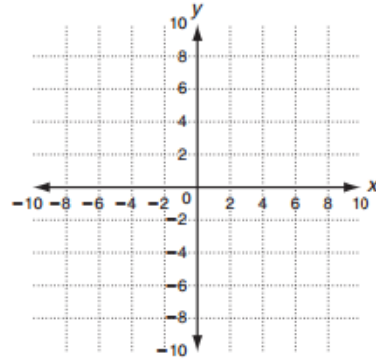12. Down 7, Right 3

13. Left 2, Up 4

Find the vertex of each function. Then graph the functions (be careful – on #16 and 17, they are inequalities!).
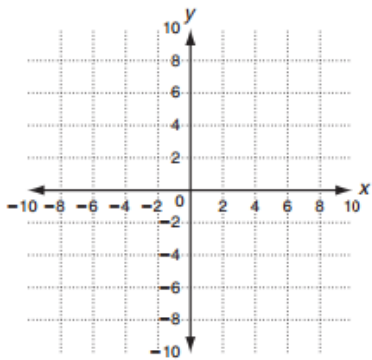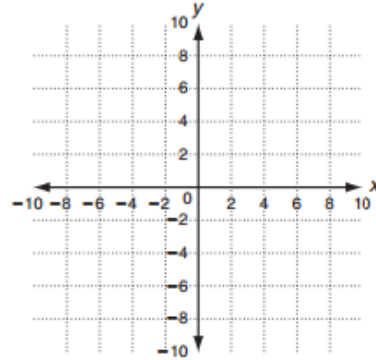
14. $y = |x - 4| + 1$

15. $g(x) = |x + 1| - 5$

16. $h(x) \geq -|x| + 5$

17. $y < |x + 5|$

Find the domain and range of each of the following absolute value functions, in both SET and INTERVAL notation.

18. $f(x) = |x - 2| + 4$

	Domain	Range
Set Notation		
Interval Notation		

19. $g(x) = |x - 12| - 4$

	Domain	Range
Set Notation		
Interval Notation		

20. $y = -|x + 12|$

	Domain	Range
Set Notation		
Interval Notation		