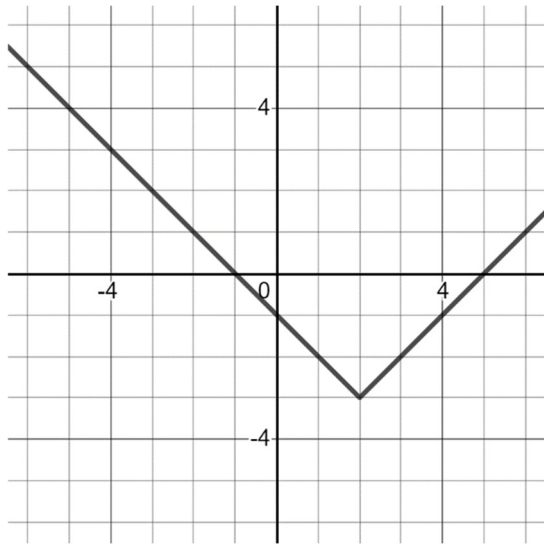


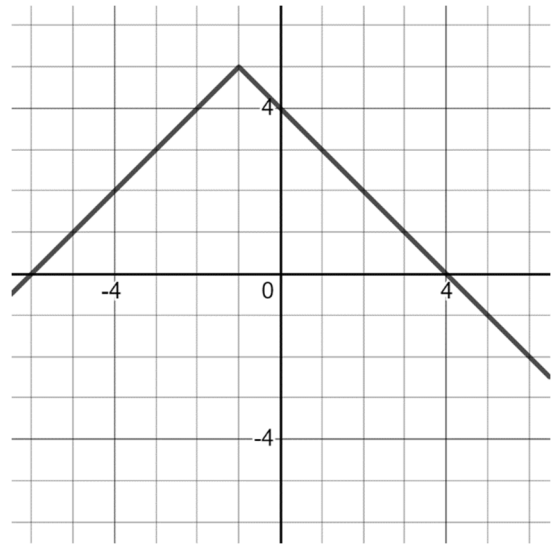
Writing Absolute Value Functions (ALG.ABS.04)

Write an absolute value function for each graph.

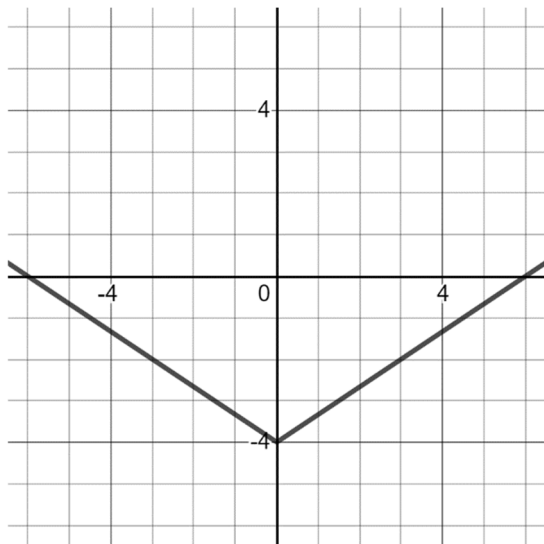
1.



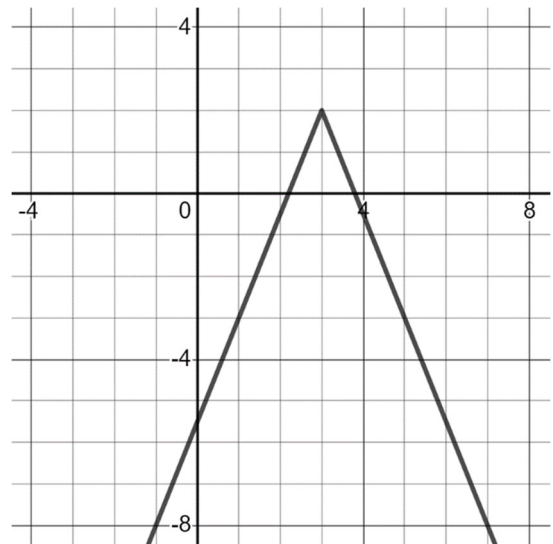
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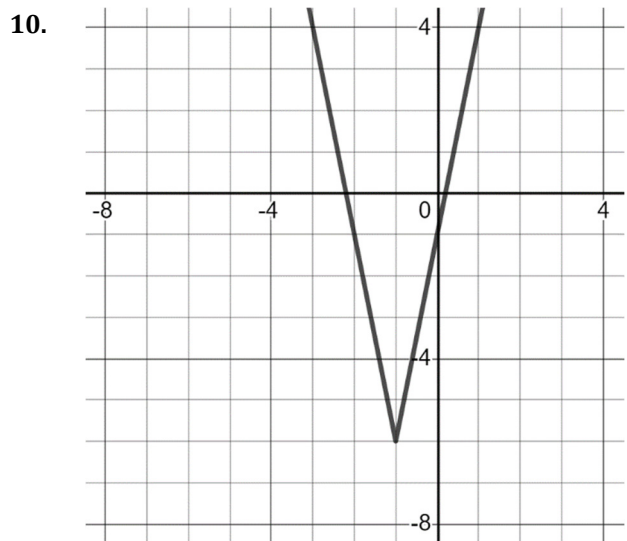
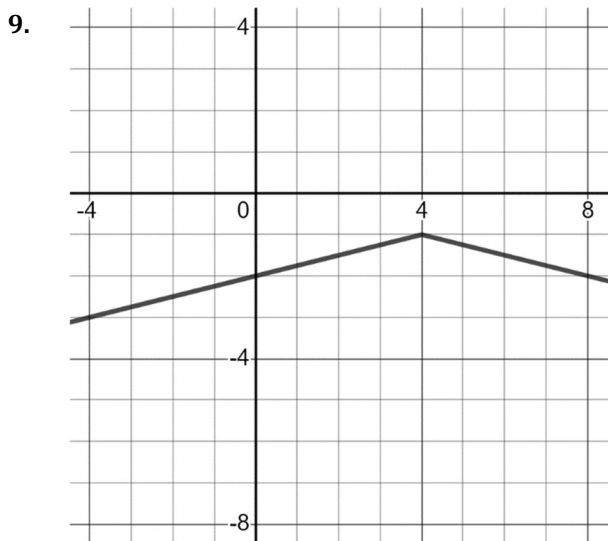
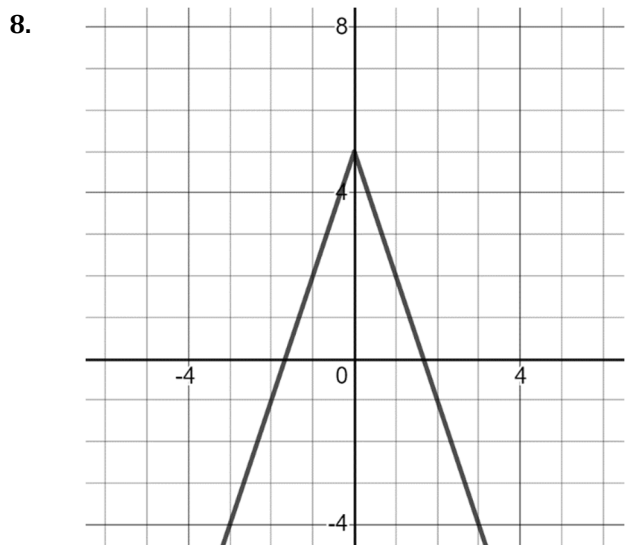
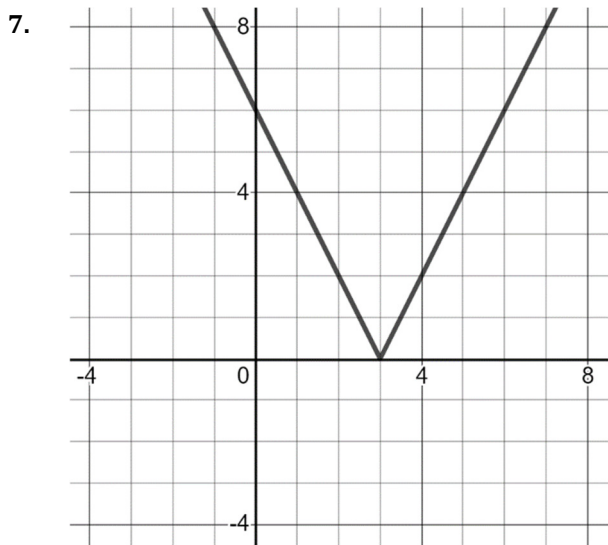
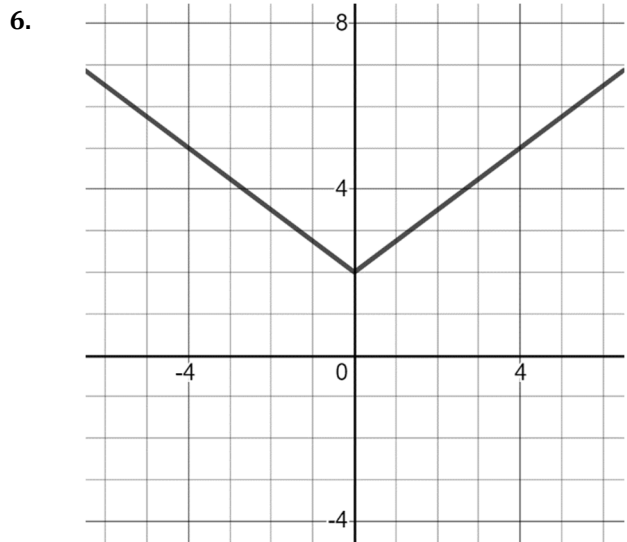
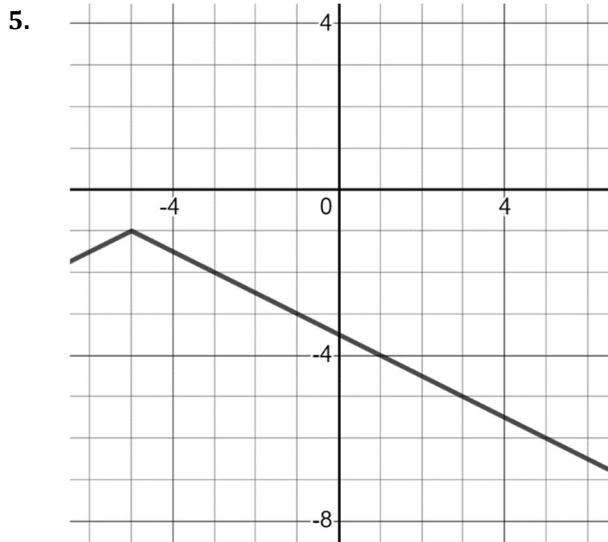


3.



4.





Write an absolute value function whose vertex is point V and passes through point P .

11. $V(0, 3)$ $P(4, -1)$

12. $V(-2, 0)$ $P(-6, 4)$

13. $V(1, 4)$ $P(-1, -2)$

14. $V(6, -2)$ $P(-3, 4)$

15. $V(3, 1)$ $P(2, 6)$

16. $V(-2, -5)$ $P(4, 3)$

17. $V(-4, 0)$ $P(0, -2)$

18. $V(0, 7)$ $P(-2, 0)$

Plot each set of ordered pairs on a coordinate plane and then write an absolute value function that passes through the three points.

19. $(-5, 0)$, $(-3, 0)$, and $(0, 3)$

20. $(-5, 0)$, $(-1, 0)$, and $(0, -2)$

21. $(-4, -1)$, $(11, 1)$, and $(-19, 5)$

22. $(-2, 4)$, $(-8, -5)$, and $(4, 1)$

Write a function from each description.

23. an absolute value function whose parent graph has been translated 3 units right and 2 units up

24. an absolute value function whose parent graph has been reflected over the x -axis and translated 4 units up

25. an absolute value function whose parent graph has been compressed horizontally by a factor of 2 and translated 6 units left and 1 unit down

26. an absolute value function whose parent graph has been stretched horizontally by a factor of 2.5, translated 3 units up, and reflected over the x -axis

27. an absolute value function whose parent graph has been compressed horizontally by a factor of $\frac{3}{2}$, translated five units right, and translated two units down

28. an absolute value function whose parent graph has been stretched horizontally by a factor of 4, reflected over the x -axis, and translated 2 units to the left