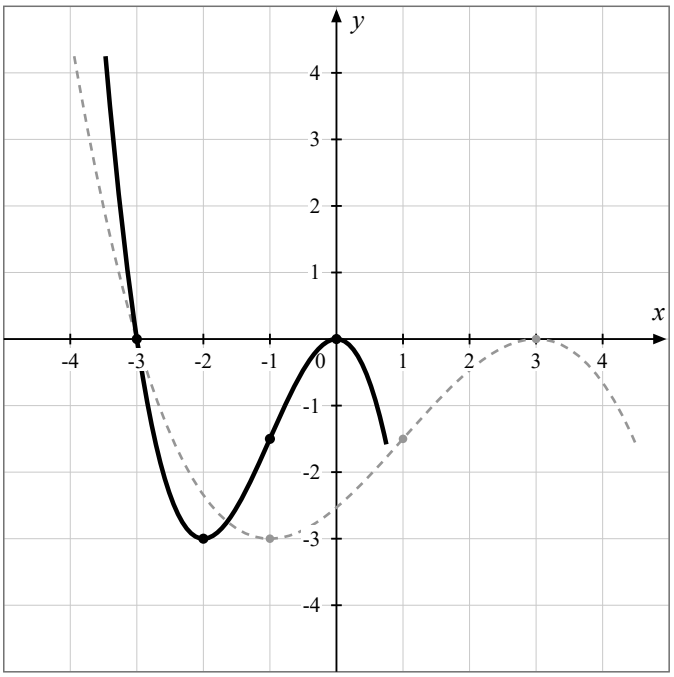
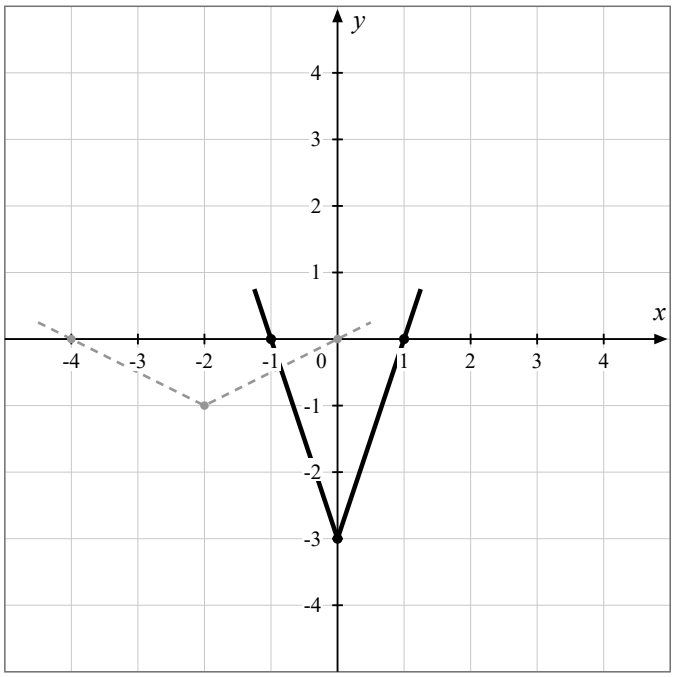
Исходный график Ответ

1. $y = f(2x + 3)$



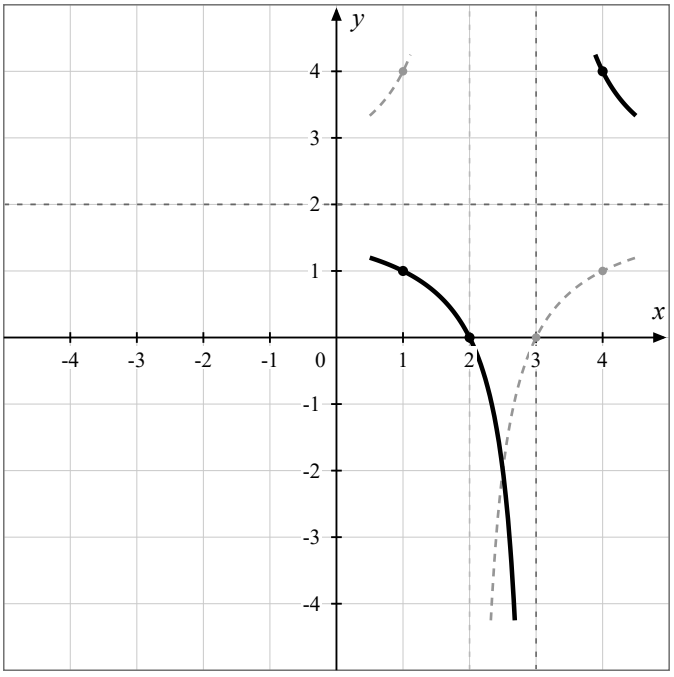
Нули: x = -3; 0.

2. $y = 3f(2x - 2)$



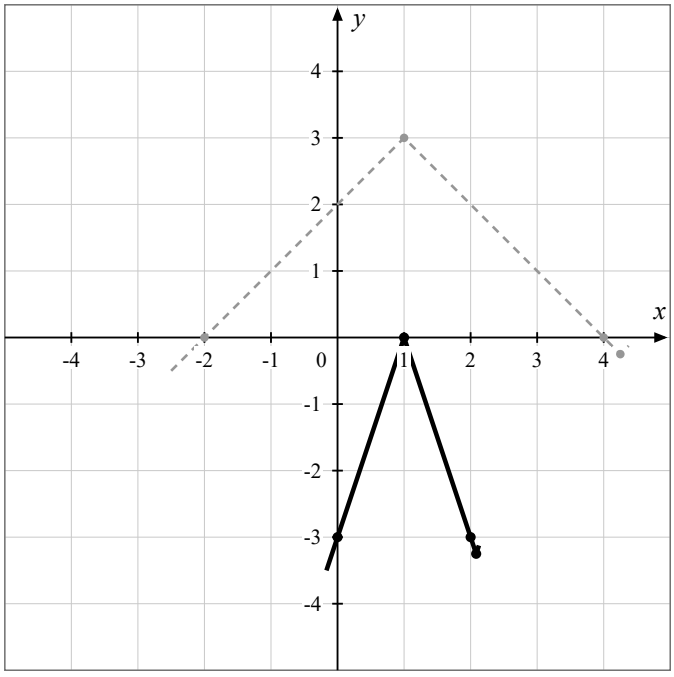
Нули: x = -1; 1.

3. $y = f(-x + 5)$



Нули: x = 2.
Асимптоты: x = 3; y = 2.

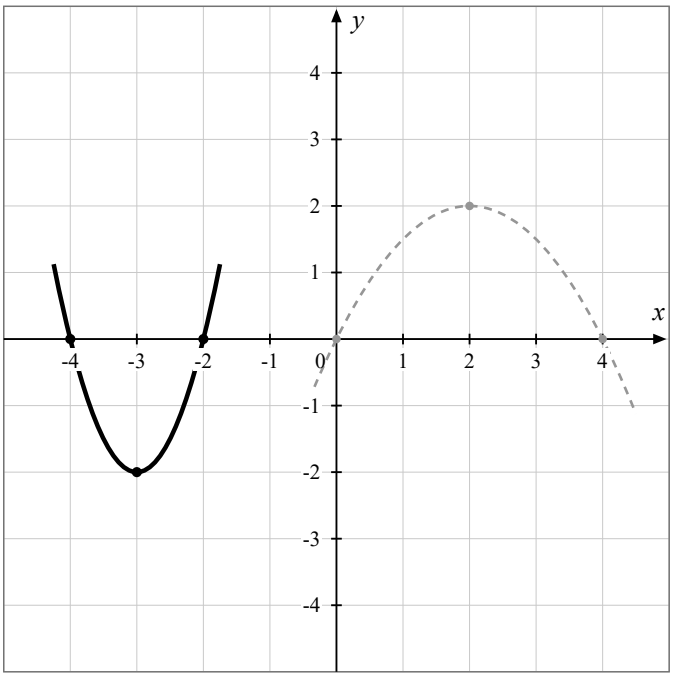
4. $y = f(3x - 2) - 3$



Нули: x = 1.

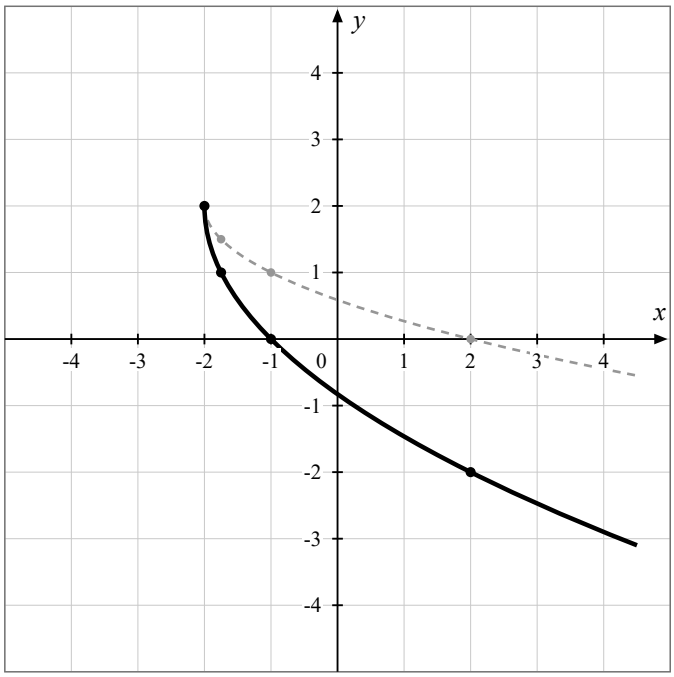
Исходный график — Ответ

5. $y = -f(-2x - 4)$



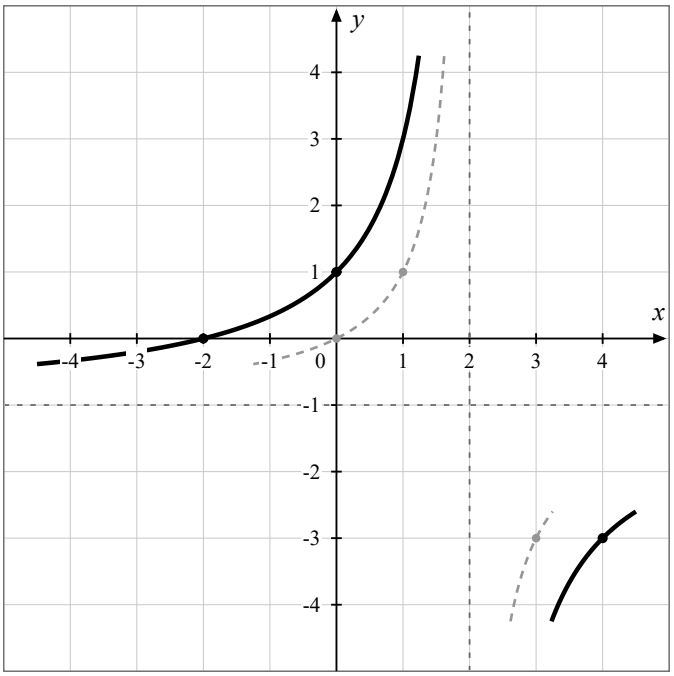
Нули: x = -4; -2.

6. $y = 2f(x) - 2$



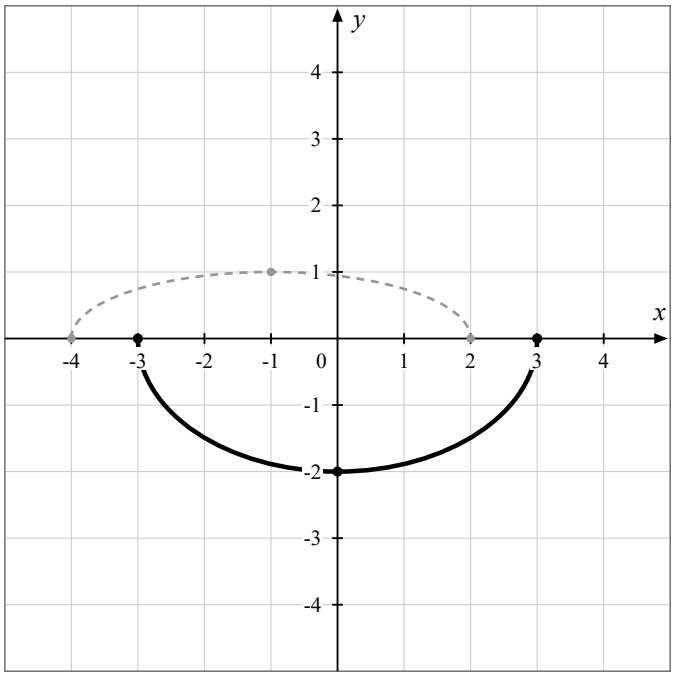
Нули: x = -1.

7. $y = f(\frac{x}{2} + 1)$



Нули: x = -2.
Асимптоты: x = 2; y = -1.

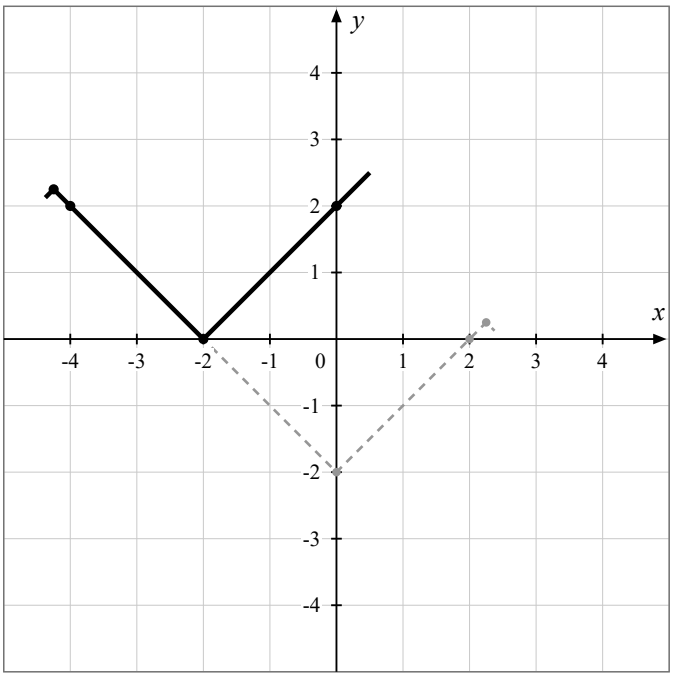
8. $y = -2f(x - 1)$



Нули: x = -3; 3.

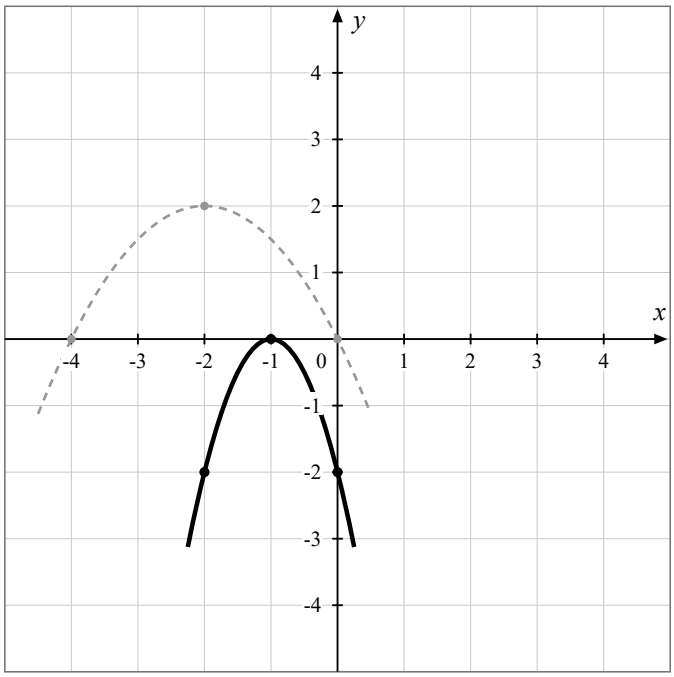
Исходный график Ответ

9. $y = f(-x - 2) + 2$



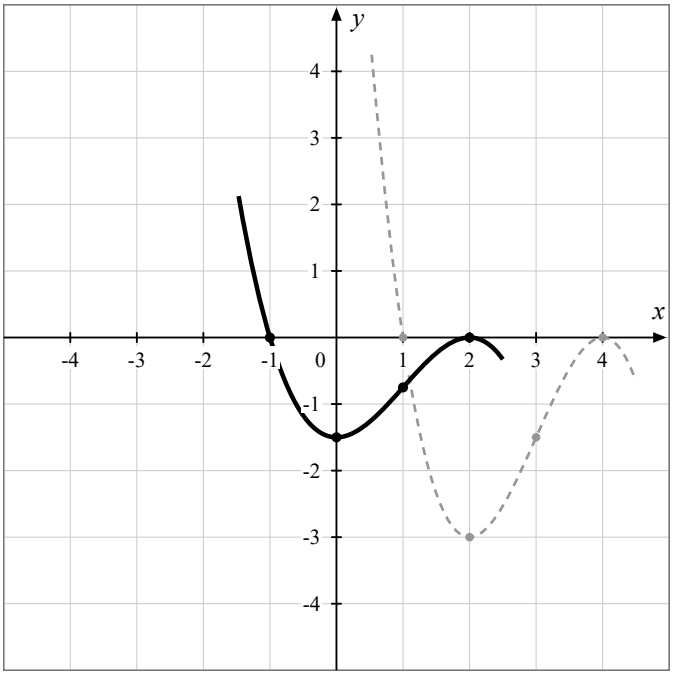
Нули: x = -2.

10. $y = f(2x) - 2$



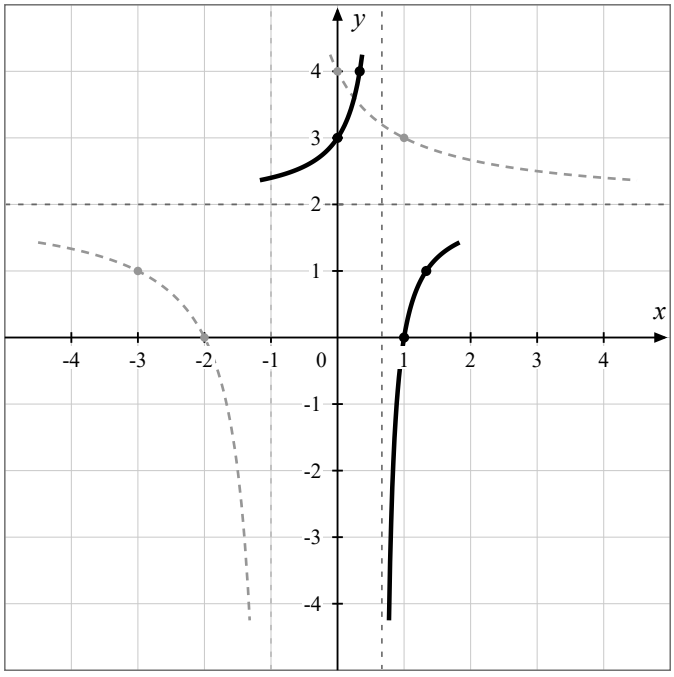
Нули: x = -1.

11. $y = \frac{1}{2}f(x + 2)$



Нули: x = -1; 2.

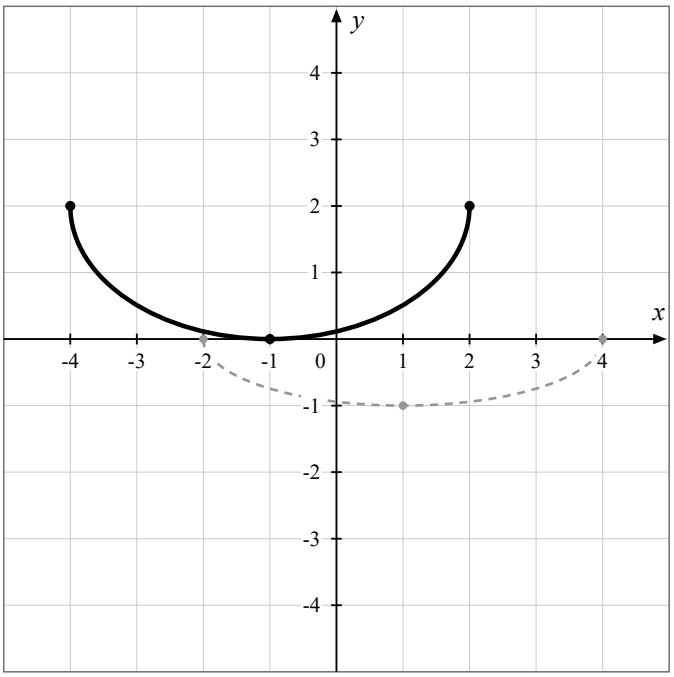
12. $y = f(-3x + 1)$



Нули: x = 1.
Асимптоты: x = 2/3; y = 2.

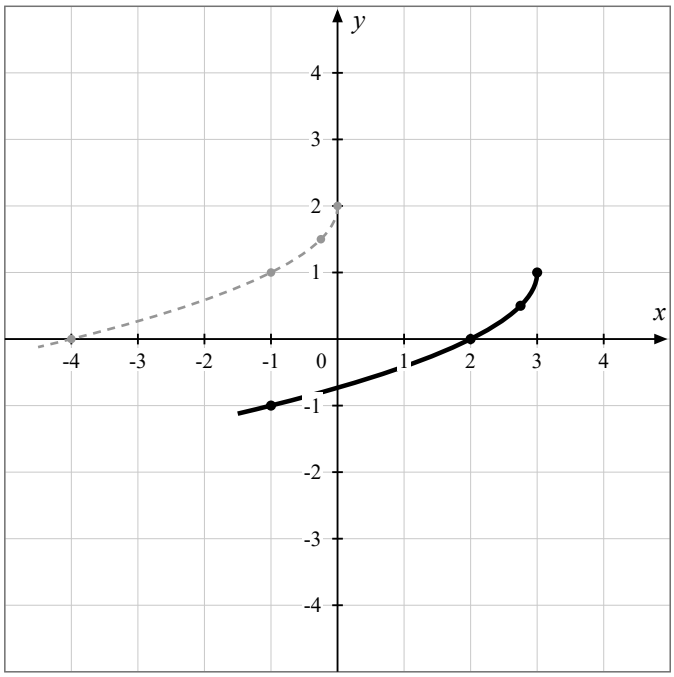
Исходный график — Ответ

13. $y = 2f(-x) + 2$



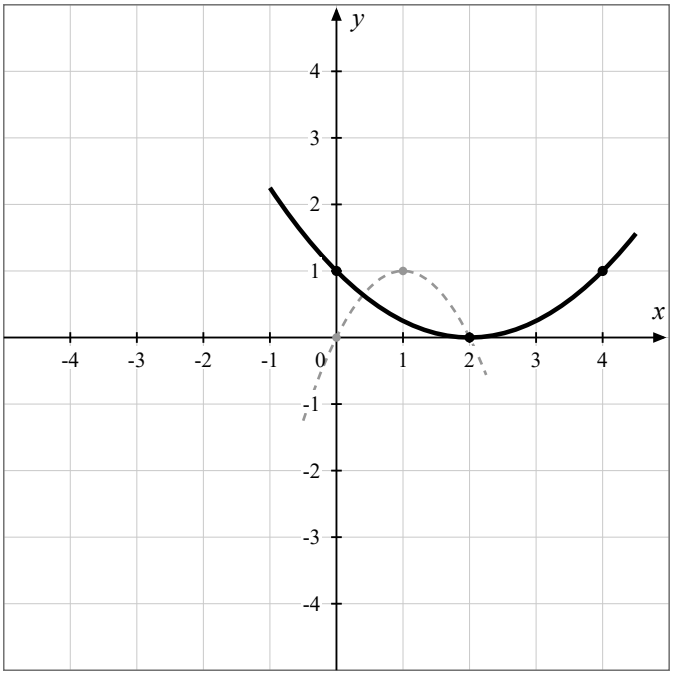
Нули: x = -1.

14. $y = f(x - 3) - 1$



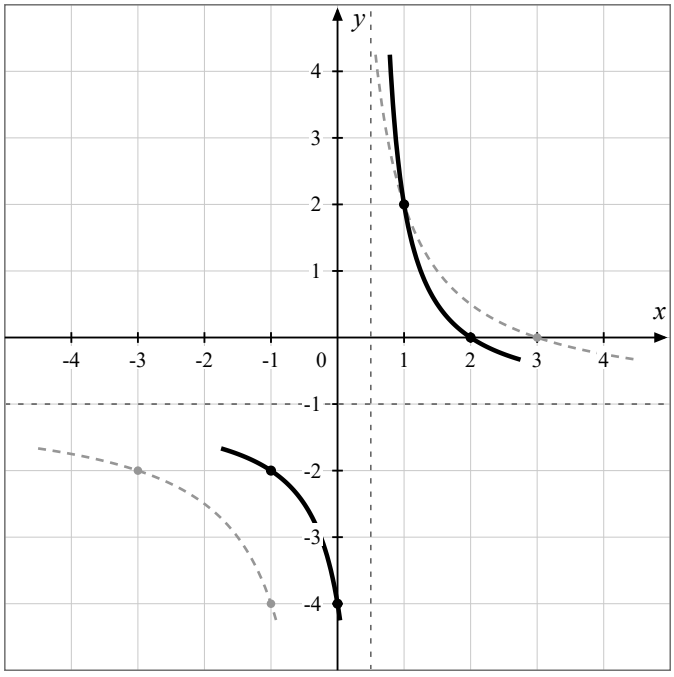
Нули: x = 2.

15. $y = -f(\frac{x}{2}) + 1$



Нули: x = 2.

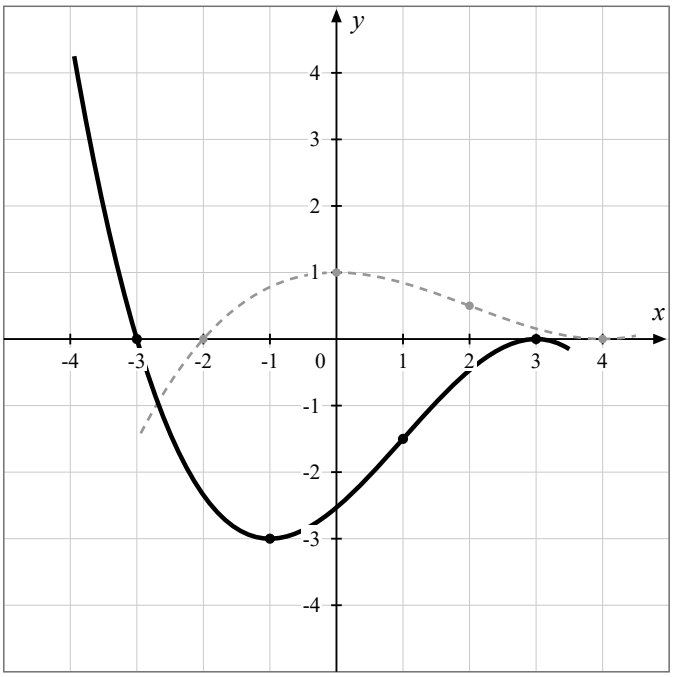
16. $y = f(2x - 1)$



Нули: x = 2.
Асимптоты: x = 1/2; y = -1.

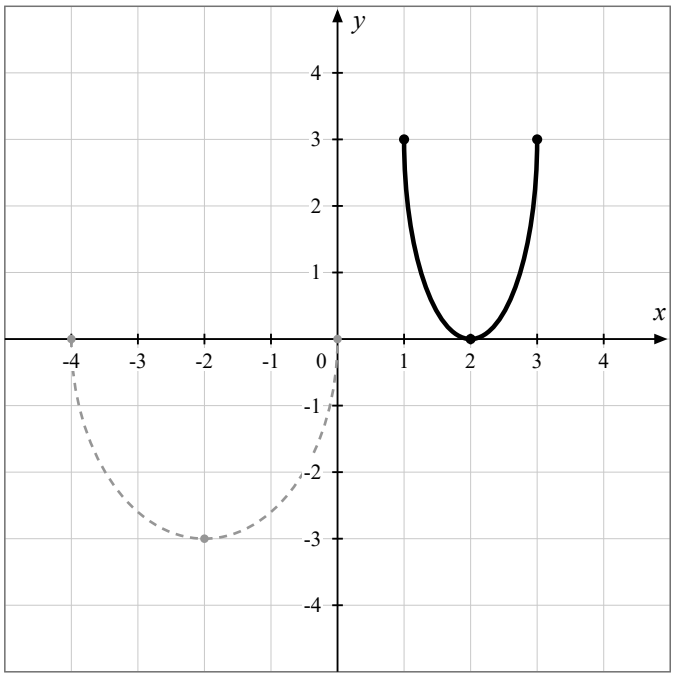
Исходный график — Ответ

17. $y = -3f(x + 1)$



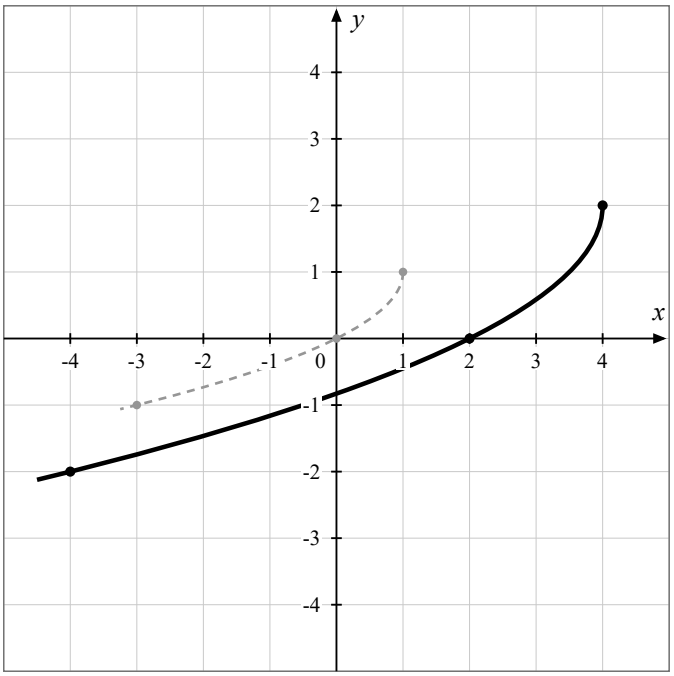
Нули: x = -3; 3.

18. $y = f(-2x + 2) + 3$



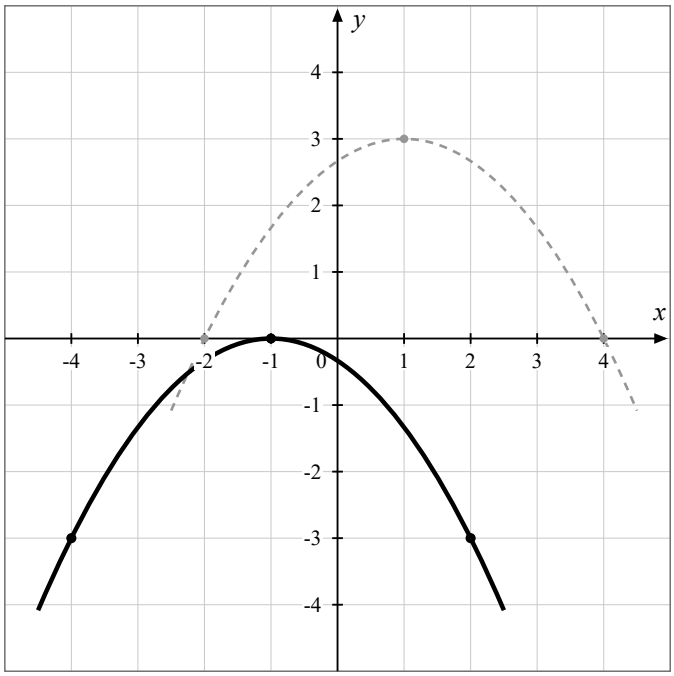
Нули: x = 2.

19. $y = 2f(\frac{x}{2} - 1)$



Нули: x = 2.

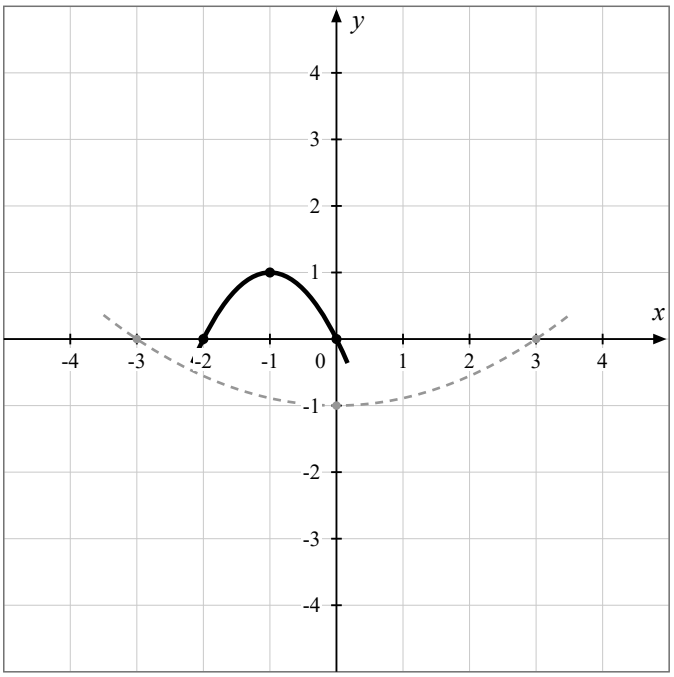
20. $y = f(x + 2) - 3$



Нули: x = -1.

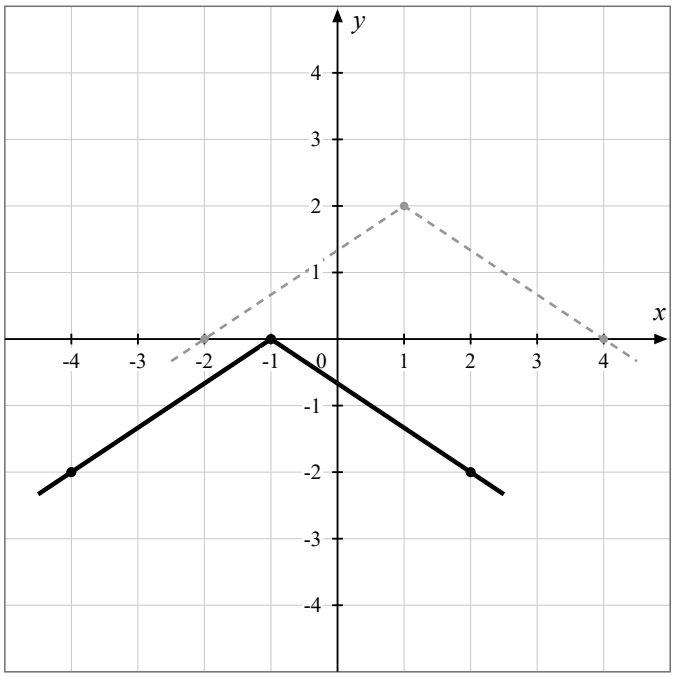
Исходный график — Ответ

21. $y = -f(3x + 3)$



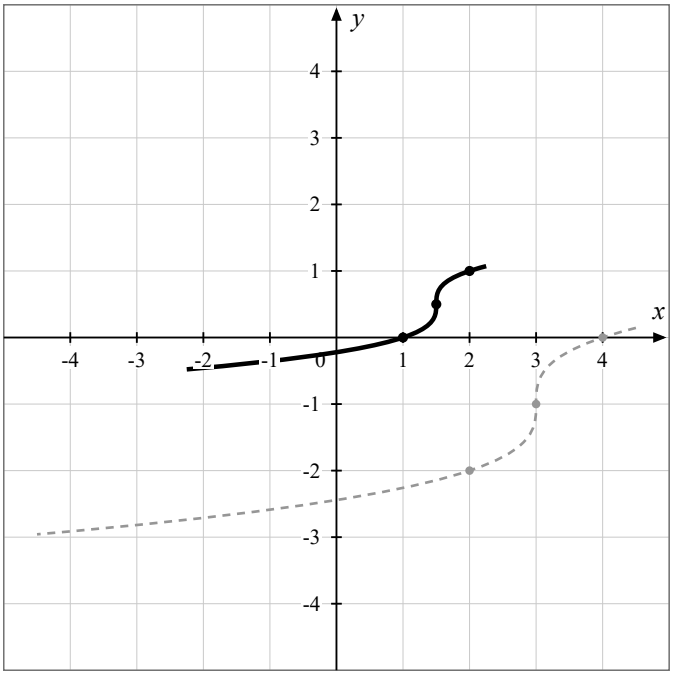
Нули: x = -2; 0.

22. $y = f(-x) - 2$



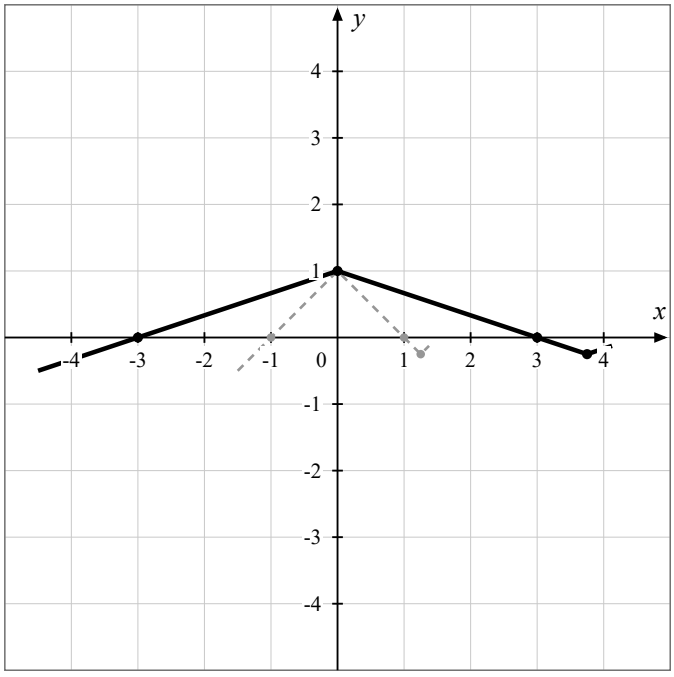
Нули: x = -1.

23. $y = \frac{1}{2}f(2x) + 1$



Нули: x = 1.

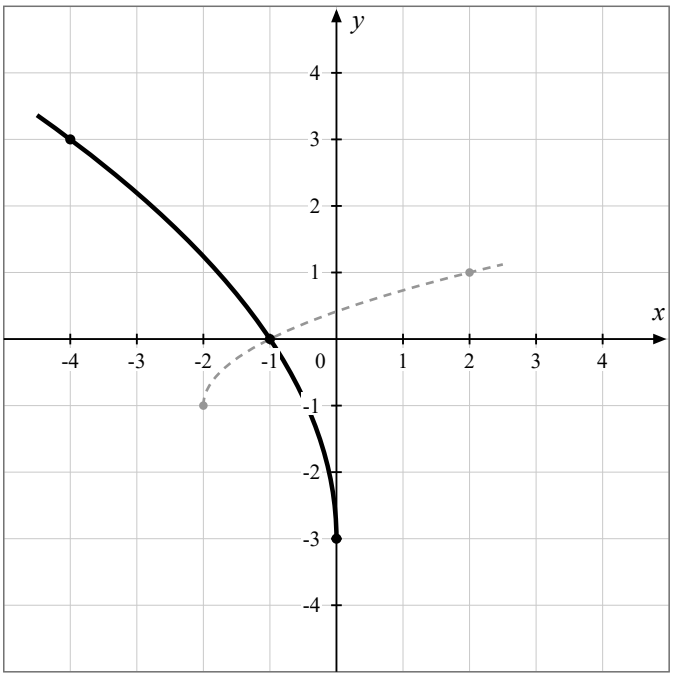
24. $y = f(\frac{x}{3})$



Нули: x = -3; 3.

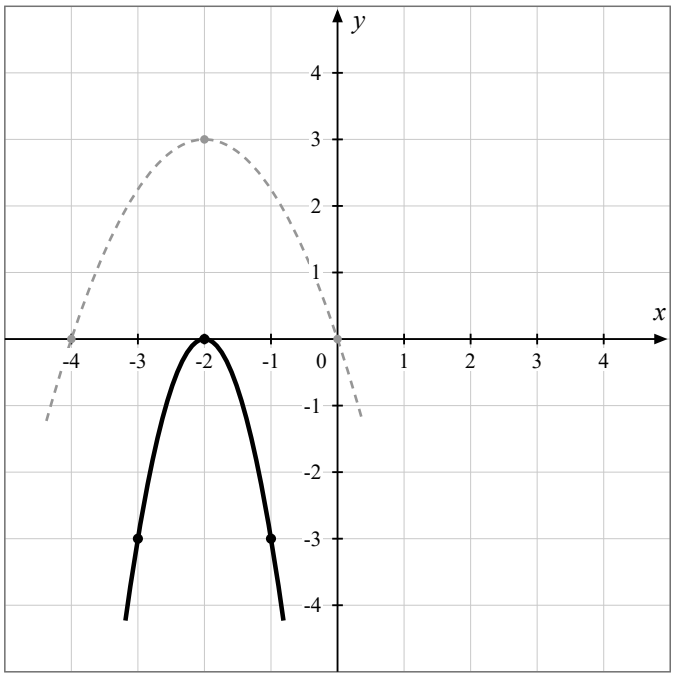
Исходный график — Ответ

25. $y = 3f(-x - 2)$



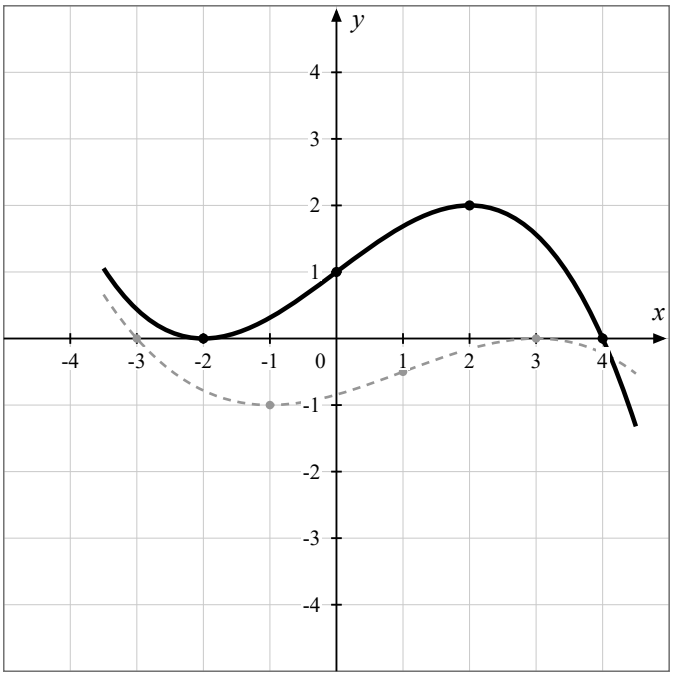
Нули: x = -1.

26. $y = f(2x + 2) - 3$



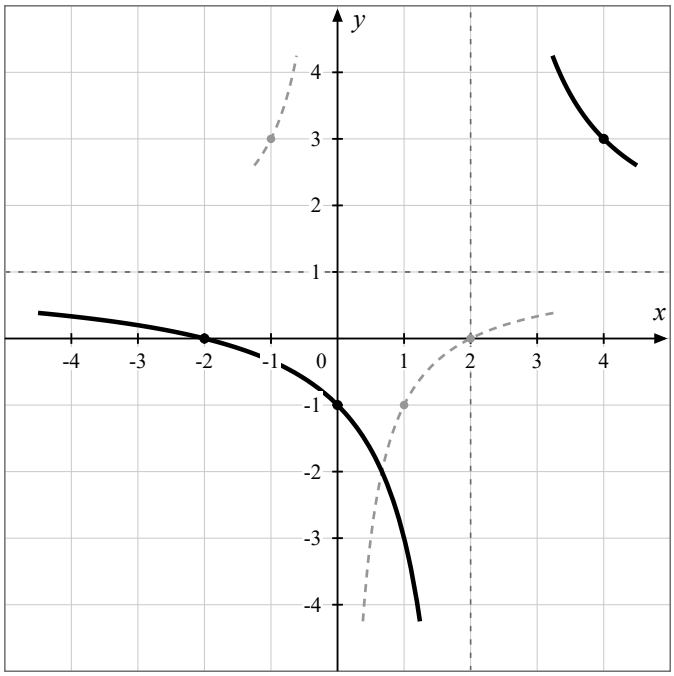
Нули: x = -2.

27. $y = -2f(-x + 1)$



Нули: x = -2; 4.

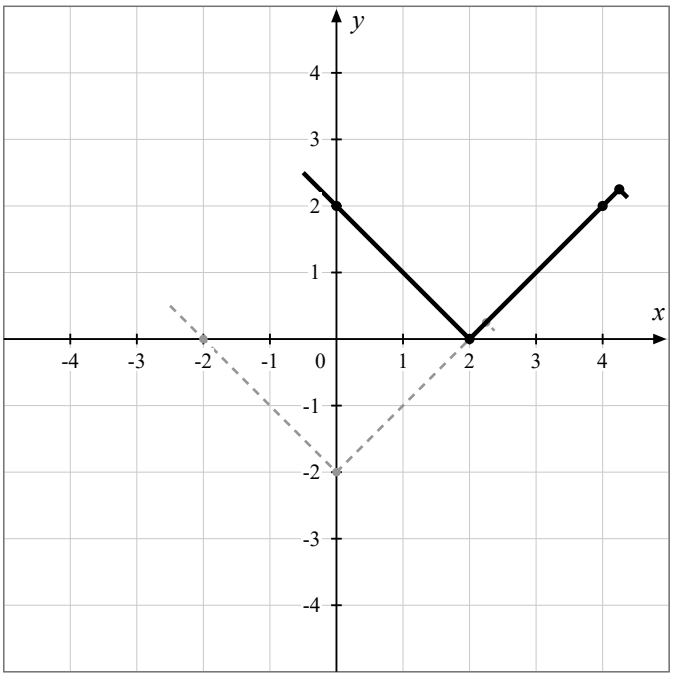
28. $y = f(-\frac{x}{2} + 1)$



Нули: x = -2.
Асимптоты: x = 2; y = 1.

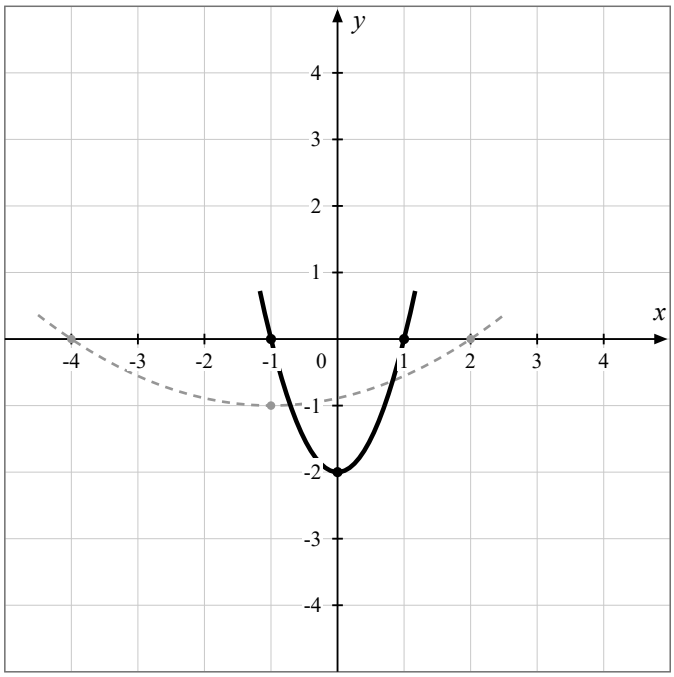
Исходный график — Ответ

29. $y = f(x - 2) + 2$



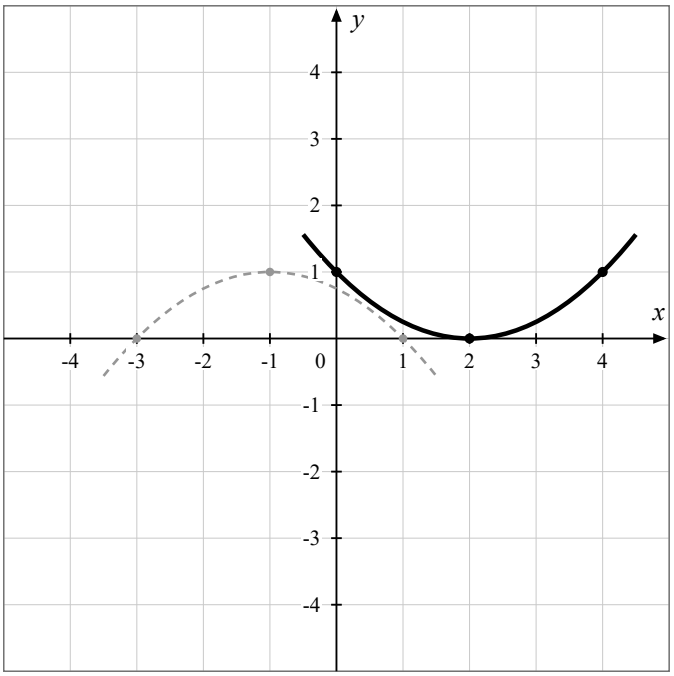
Нули: x = 2.

30. $y = 2f(3x - 1)$



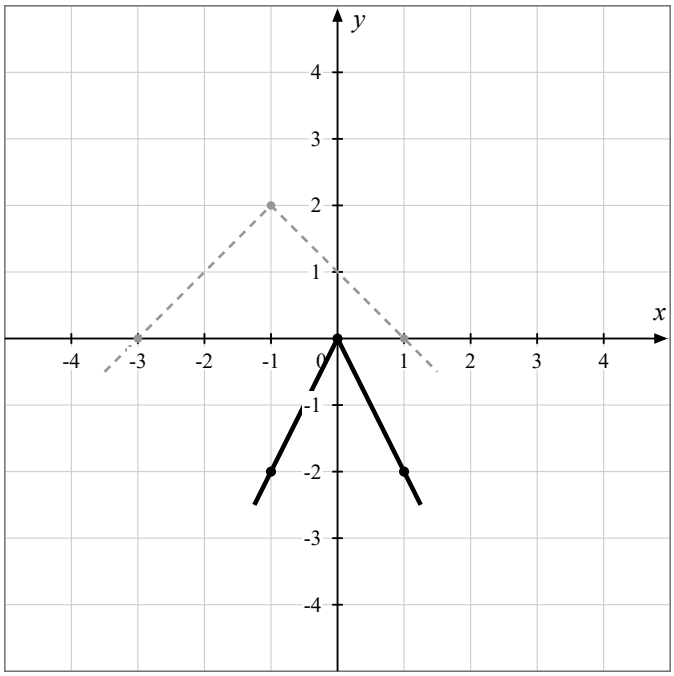
Нули: x = -1; 1.

31. $y = -f(x - 3) + 1$



Нули: x = 2.

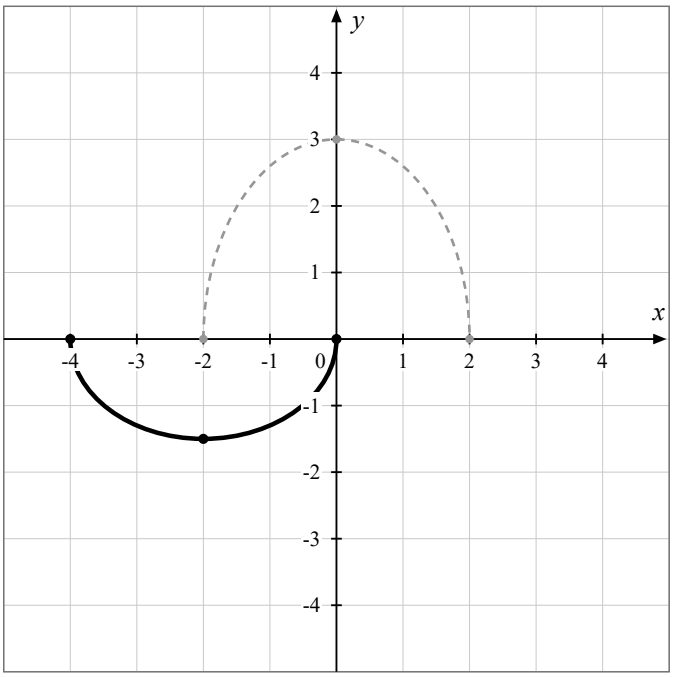
32. $y = f(-2x - 1) - 2$



Нули: x = 0.

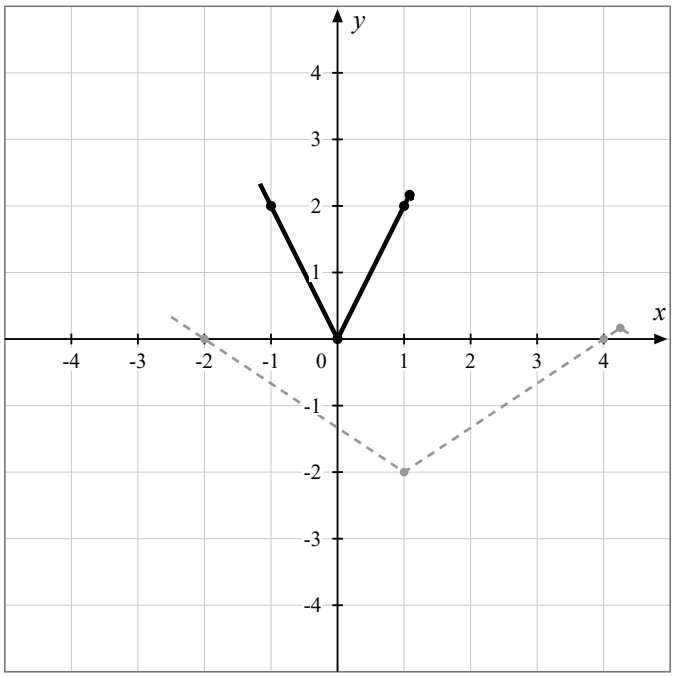
Исходный график — Ответ

33. $y = \frac{-1}{2}f(x + 2)$



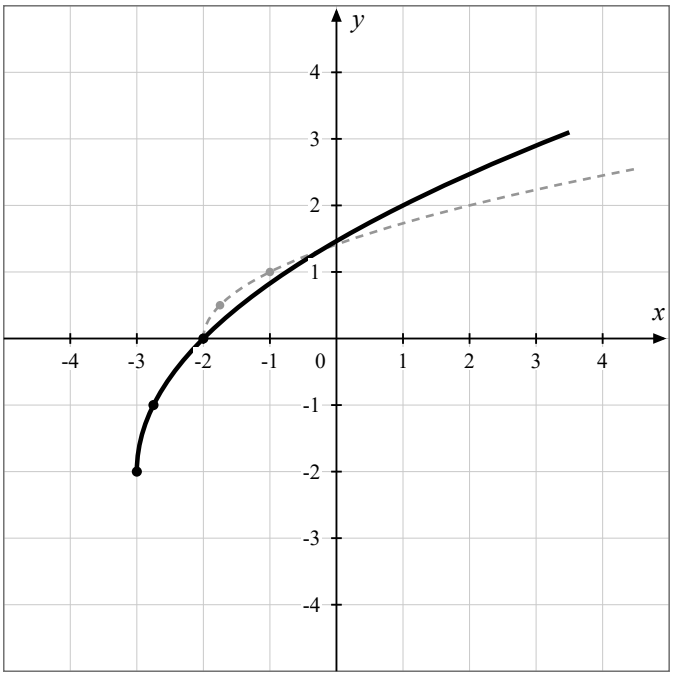
Нули: x = -4; 0.

34. $y = f(3x + 1) + 2$



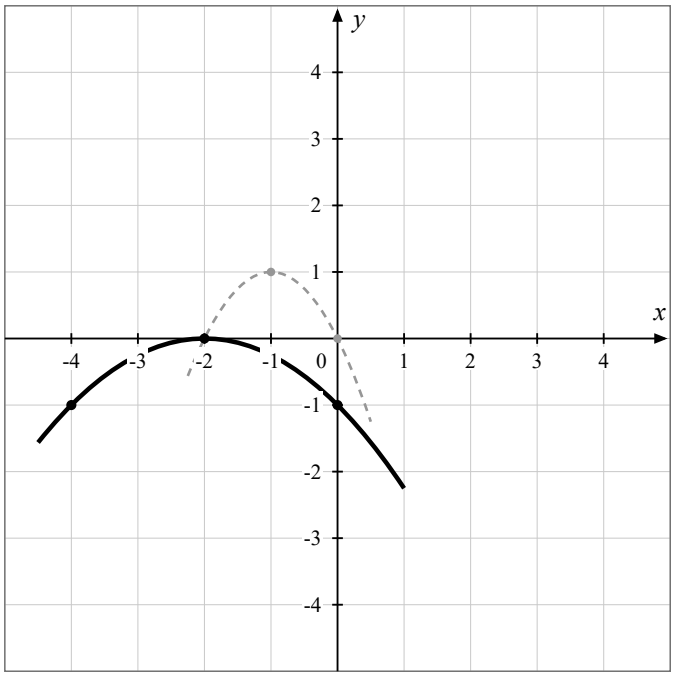
Нули: x = 0.

35. $y = 2f(x + 1) - 2$



Нули: x = -2.

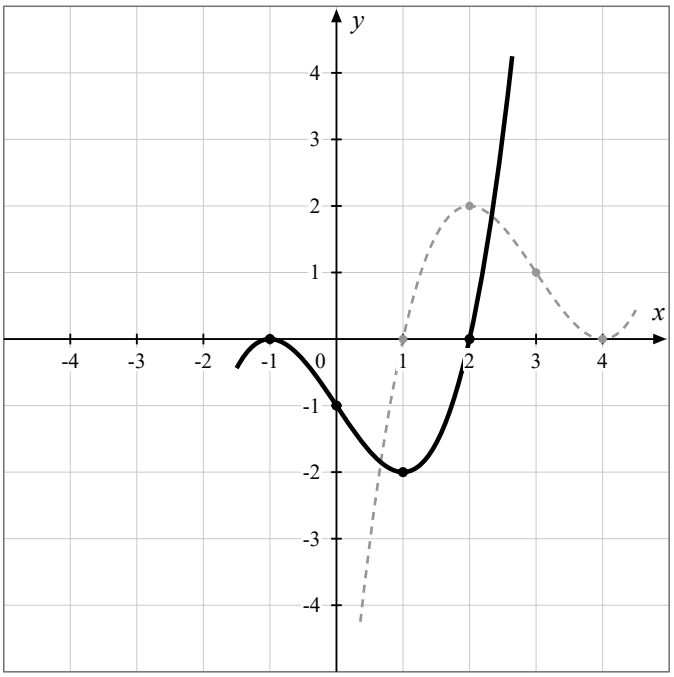
36. $y = f(\frac{x}{2}) - 1$



Нули: x = -2.

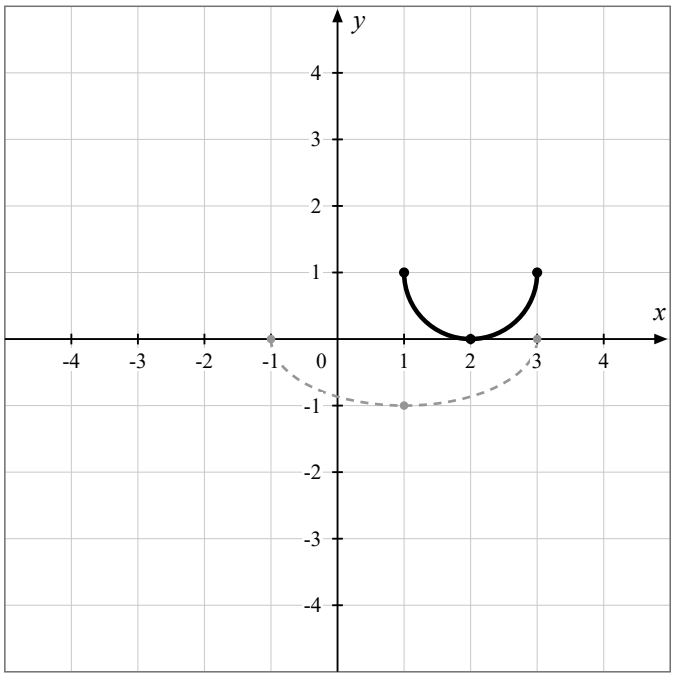
Исходный график — Ответ

37. $y = -f(-x + 3)$



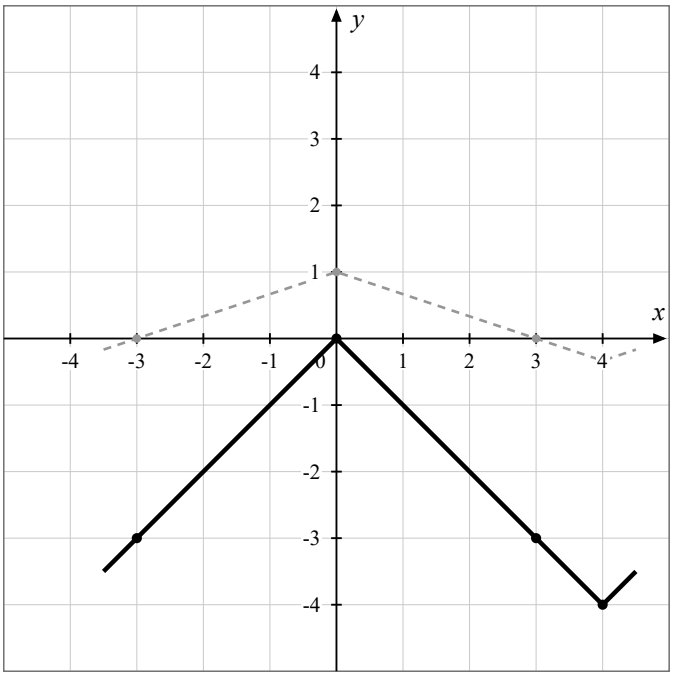
Нули: x = -1; 2.

38. $y = f(2x - 3) + 1$



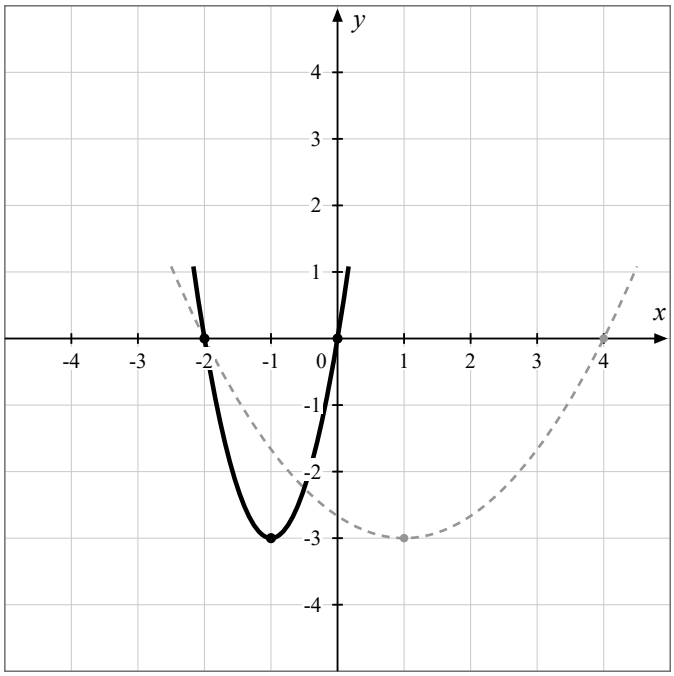
Нули: x = 2.

39. $y = 3f(x) - 3$



Нули: x = 0.

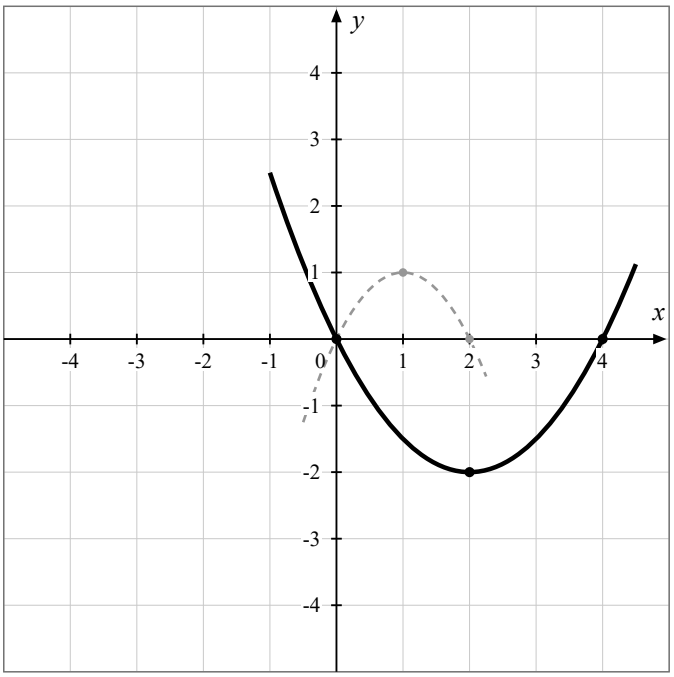
40. $y = f(-3x - 2)$



Нули: x = -2; 0.

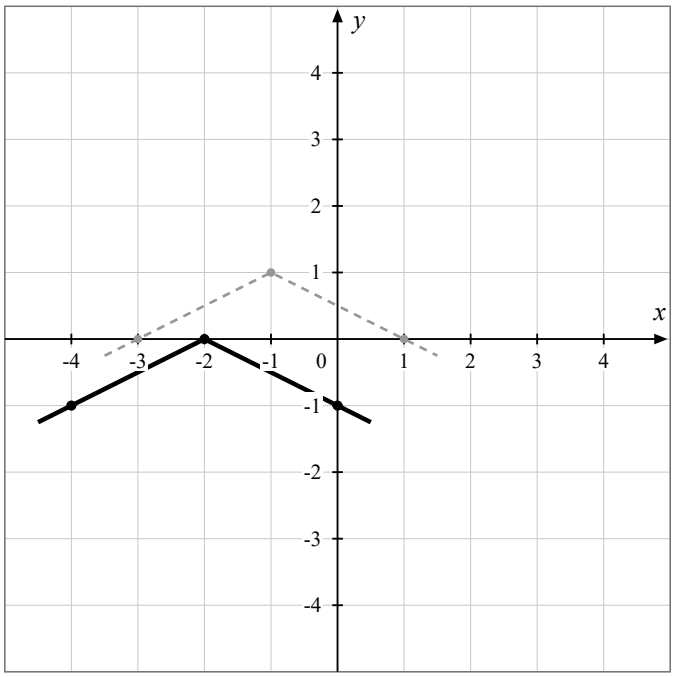
Исходный график — Ответ

41. $y = -2f(\frac{x}{2})$



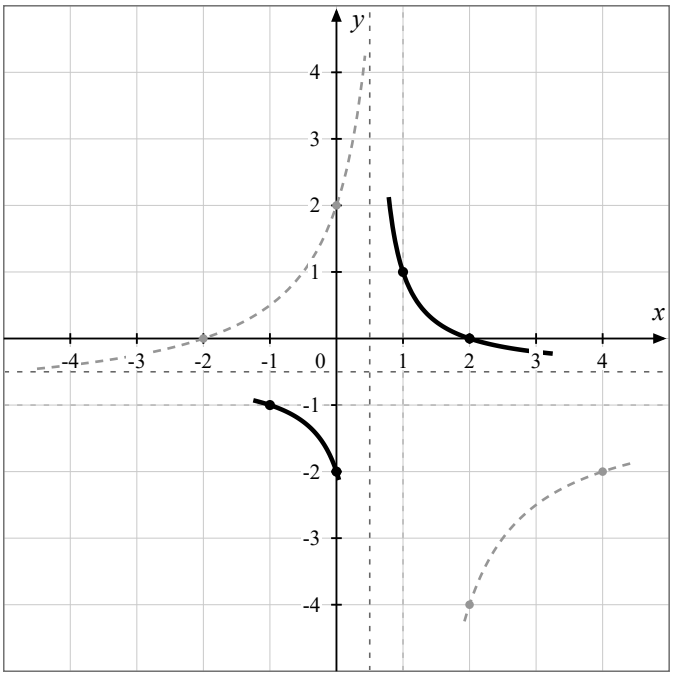
Нули: x = 0; 4.

42. $y = f(-x - 3) - 1$



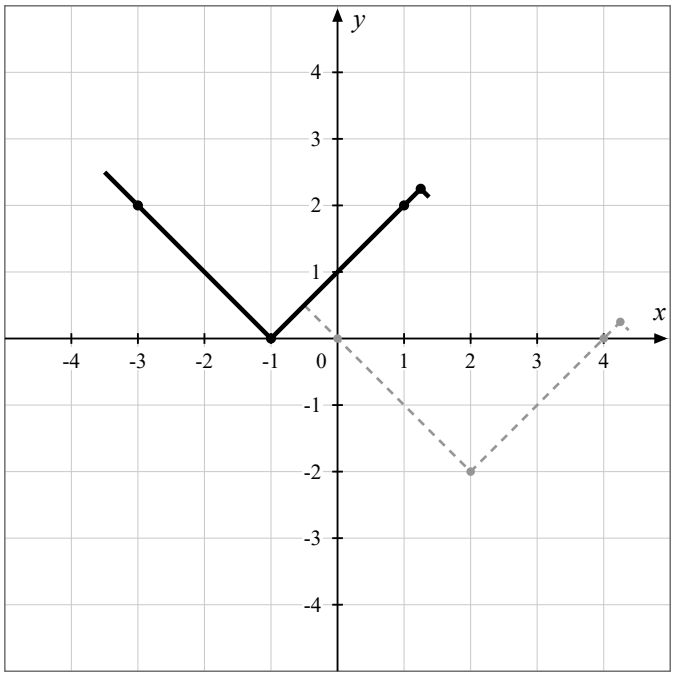
Нули: x = -2.

43. $y = \frac{1}{2}f(-2x + 2)$



Нули: x = 2.
Асимптоты: x = 1/2; y = -1/2.

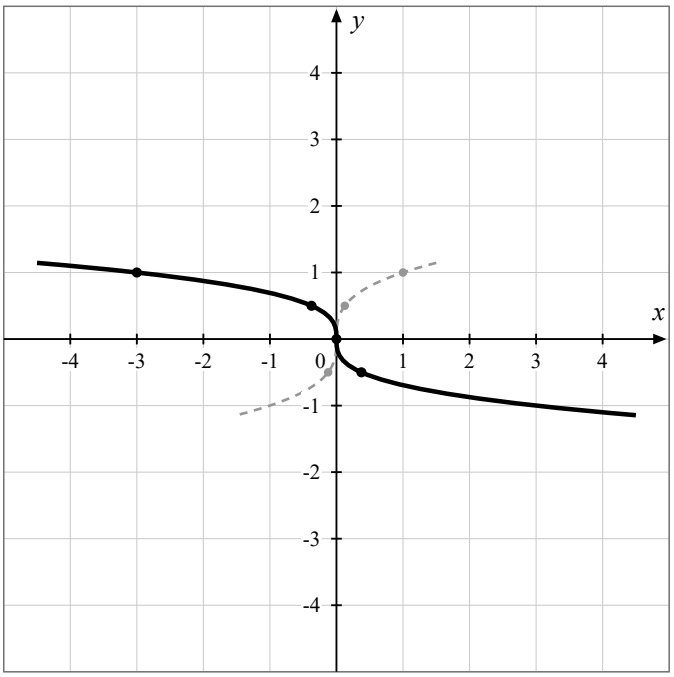
44. $y = f(x + 3) + 2$



Нули: x = -1.

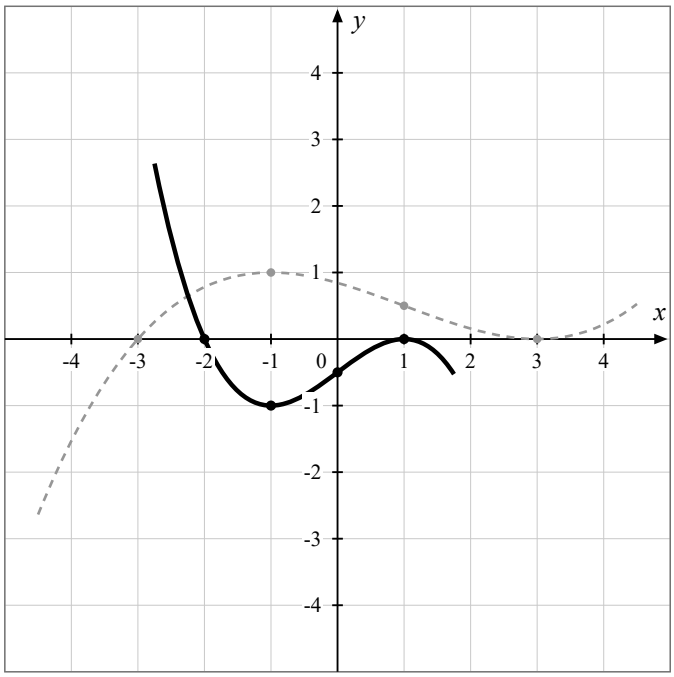
Исходный график — Ответ

45. $y = f(-\frac{x}{3})$



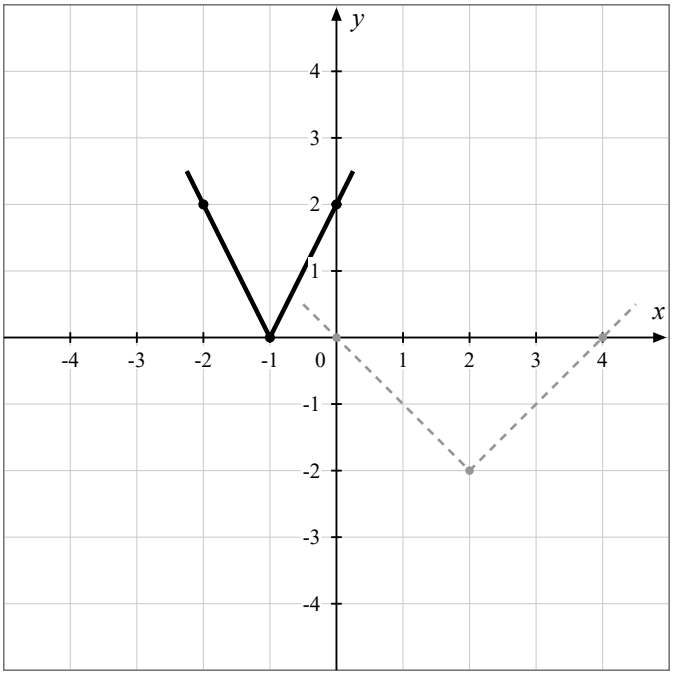
Нули: x = 0.

46. $y = -f(2x + 1)$



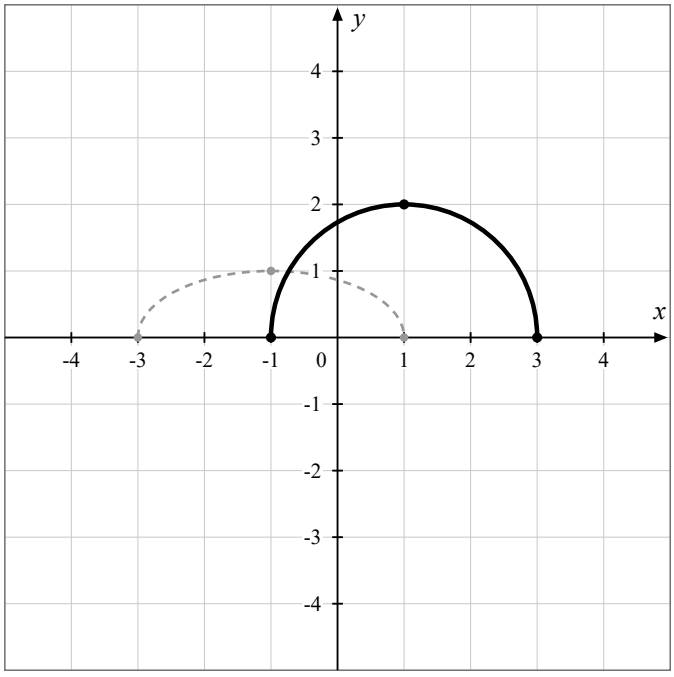
Нули: x = -2; 1.

47. $y = f(-2x) + 2$



Нули: x = -1.

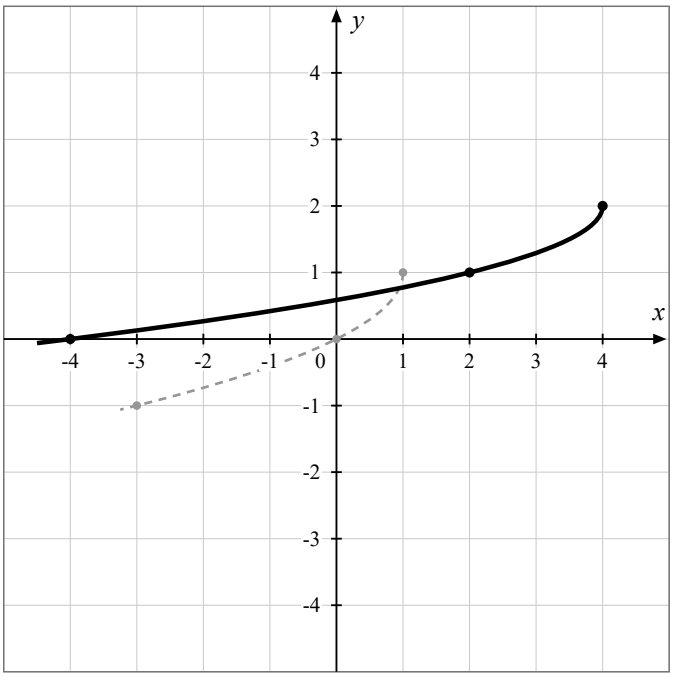
48. $y = 2f(x - 2)$



Нули: x = -1; 3.

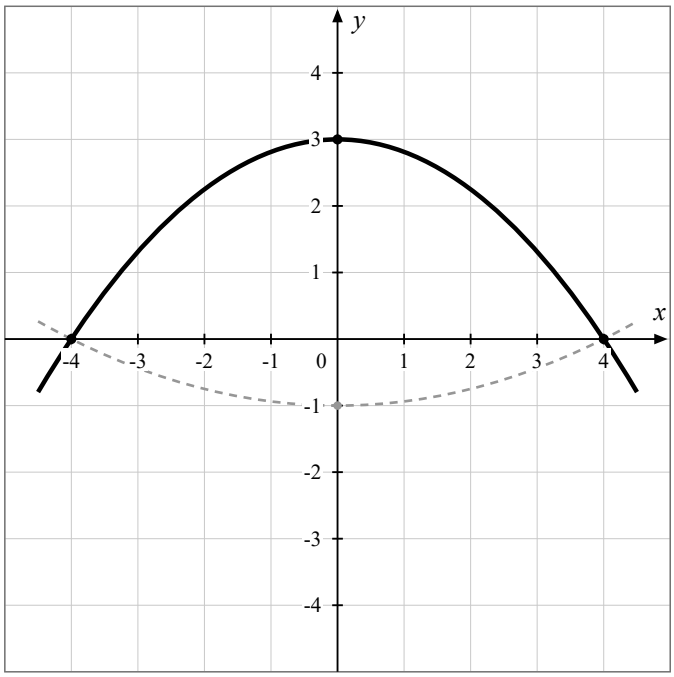
Исходный график Ответ

49. $y = f(\frac{x}{2} - 1) + 1$



Нули: x = -4.

50. $y = -3f(-x)$



Нули: x = -4; 4.