

TRANSFORMING GRAPHS

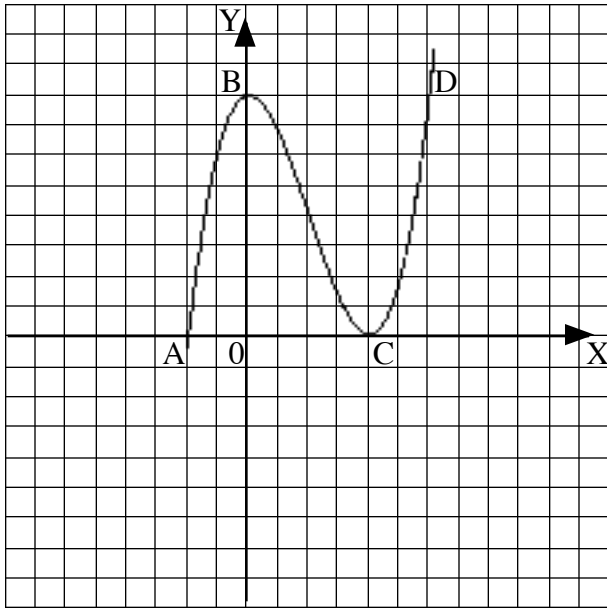
The graph of $y=f(x)$ is given. The points A, B, C and D lie on the graph.

In each question the graph is transformed according to the rule given.

Neatly draw the transformed graph, plotting carefully the images of the points A, B, C and D.

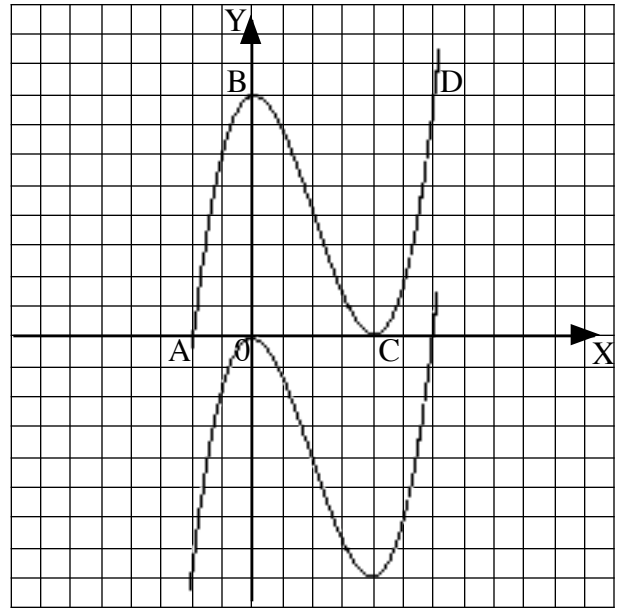
State the coordinates of the images.

Example: $y=f(x)$



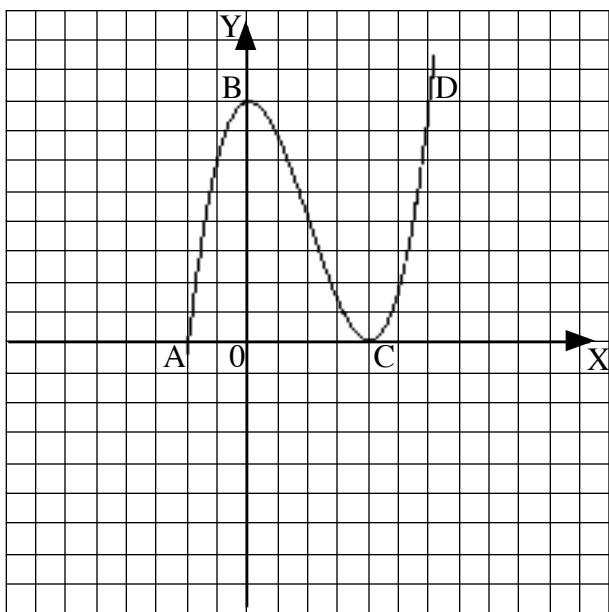
points	images
A(-2,0)	
B(0,8)	
C(4,0)	
D(6,8)	

$y=f(x) - 8$



points	images
A(-2,0)	(-2,-8)
B(0,8)	(0,0)
C(4,0)	(4,-8)
D(6,8)	(6,0)

1. $y = -f(x)$



points images

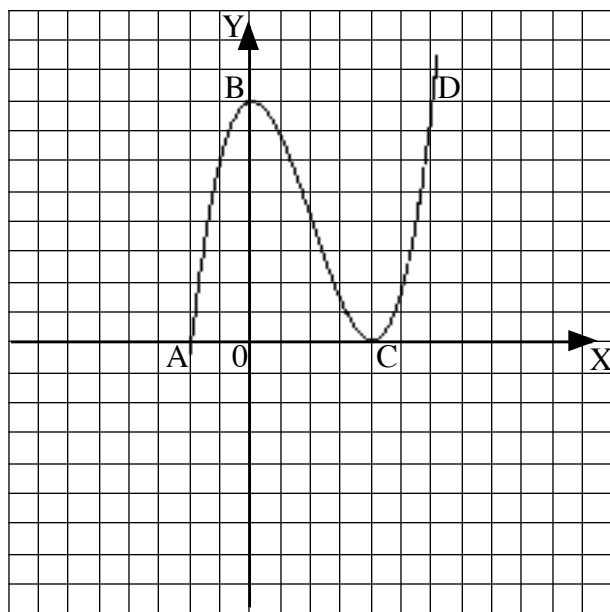
A(-2,0)

B(0,-8)

C(4,0)

D(6,-8)

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



points images

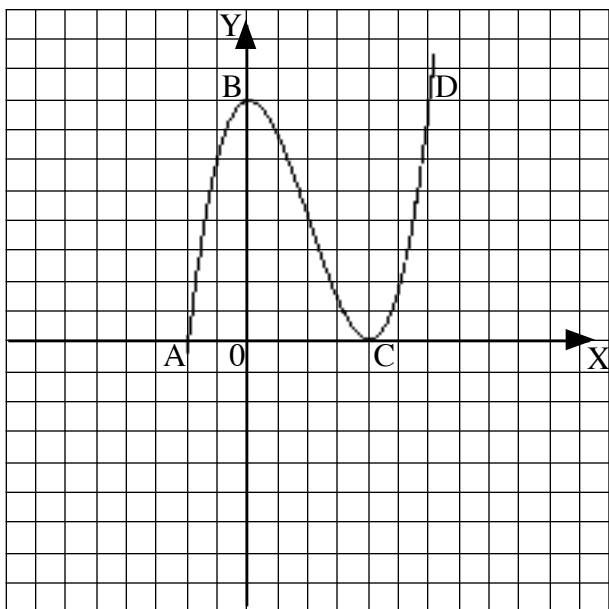
A(-2,0)

B(0,4)

C(4,0)

D(6,4)

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



points images

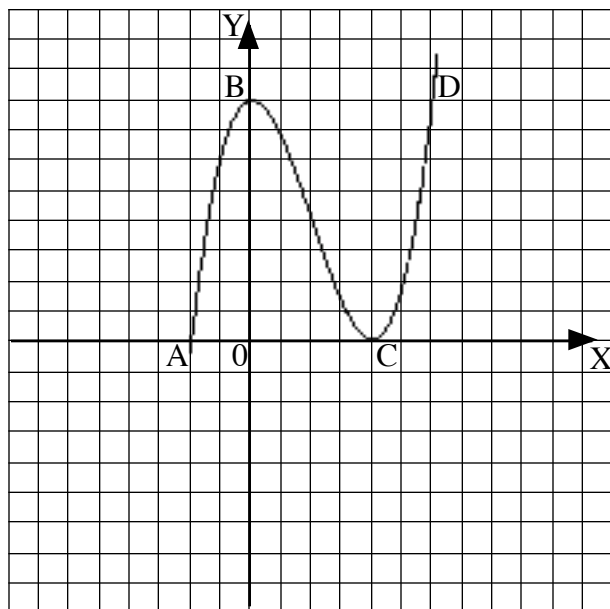
A(0,0)

B(2,8)

C(6,0)

D(8,8)

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



points images

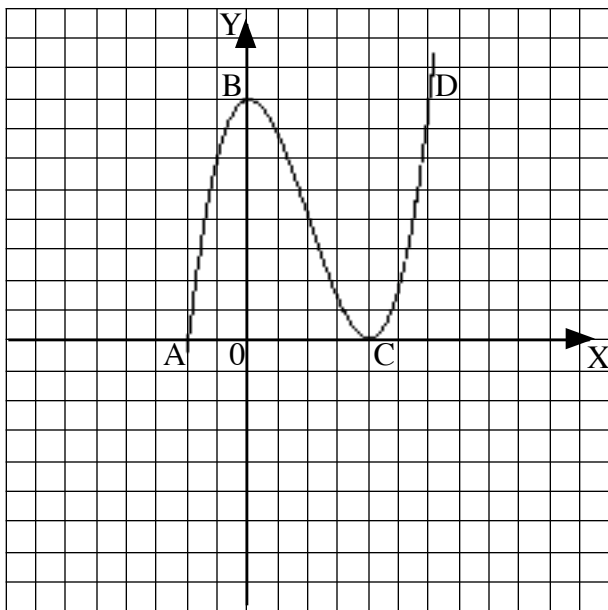
A(0,0)

B(2,-8)

C(6,0)

D(8,-8)

5. $y = f(1/2x)$



points images

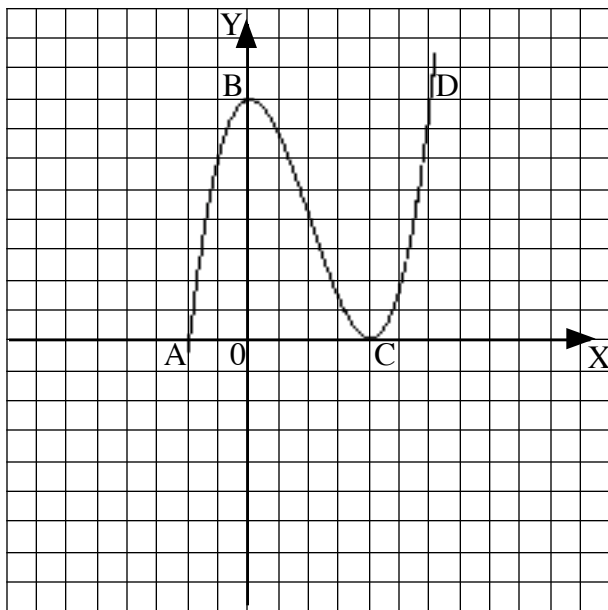
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

6. $y = -f(1/2x)$



points images

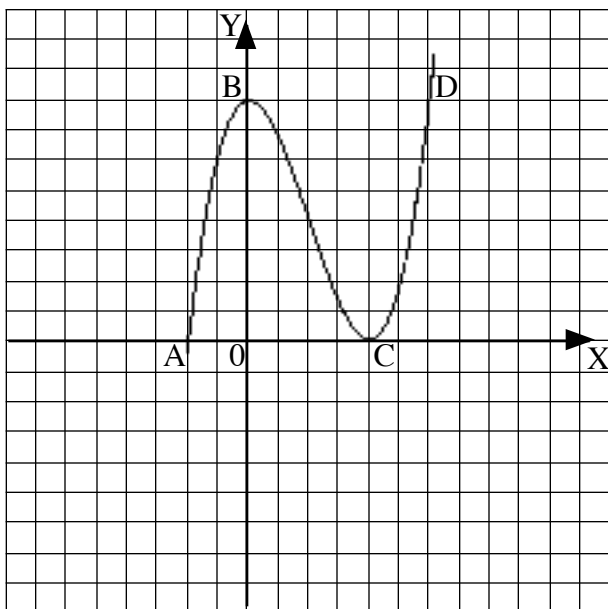
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

7. $y = 1/2 f(x)$



points images

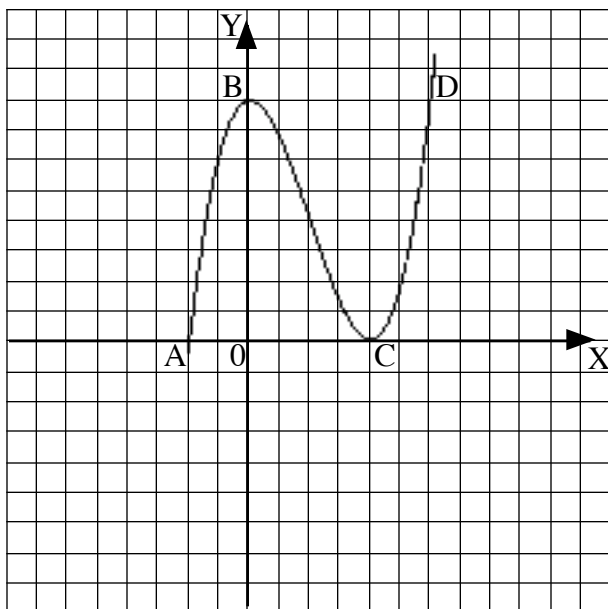
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

8. $y = 1/2 f(x) - 4$



points images

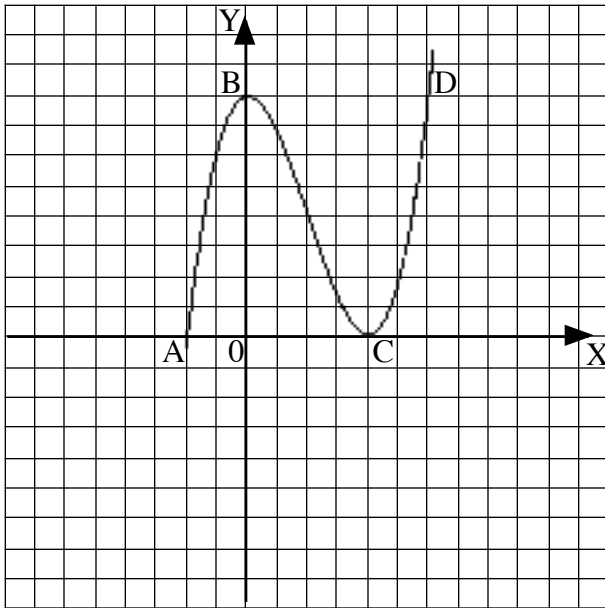
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

9. $y = f(x+4)$



points images

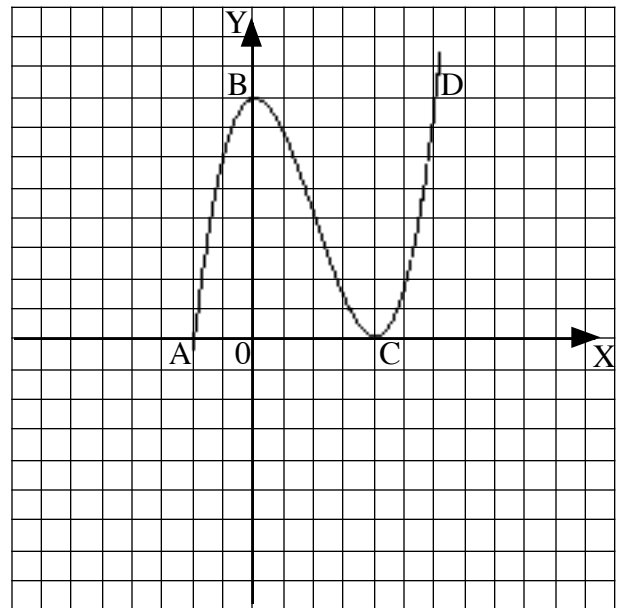
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

10. $y = f(x+4) - 8$



points images

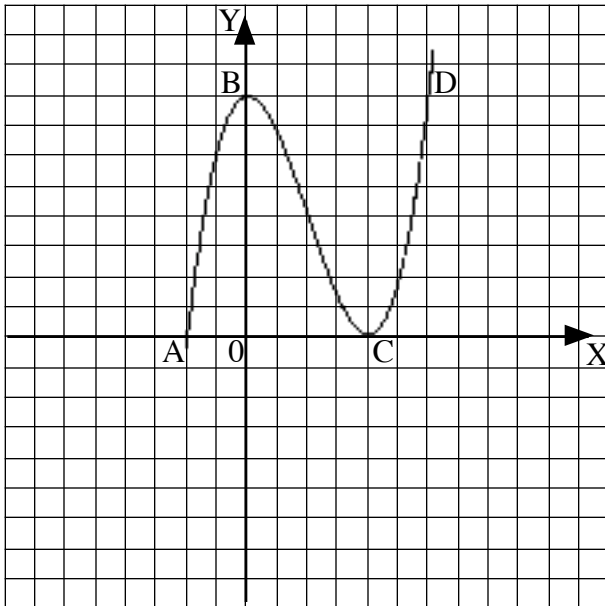
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

11. $y = f(-x)$



points images

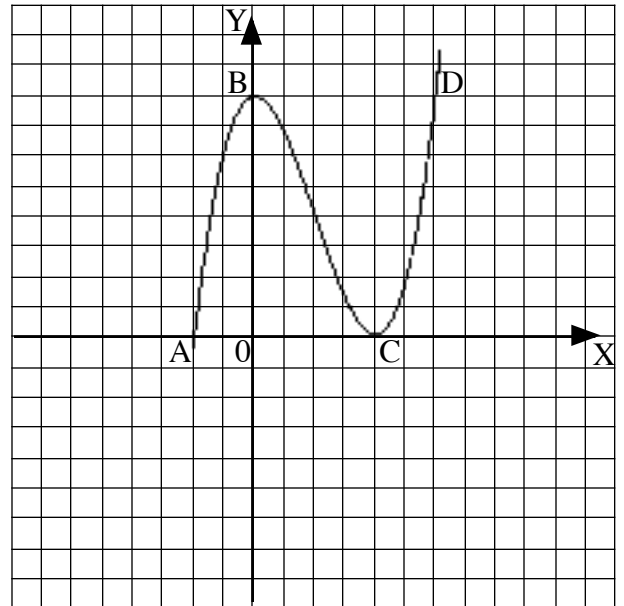
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

12. $y = -f(-x)$



points images

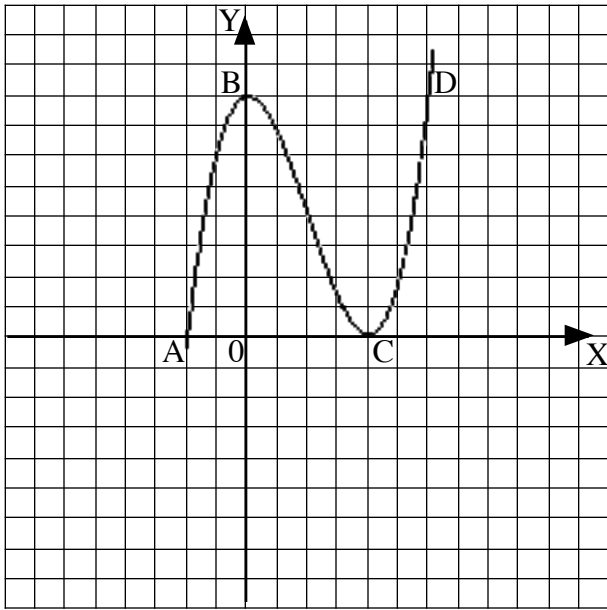
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

13. $y = -1/2 f(x)$



points images

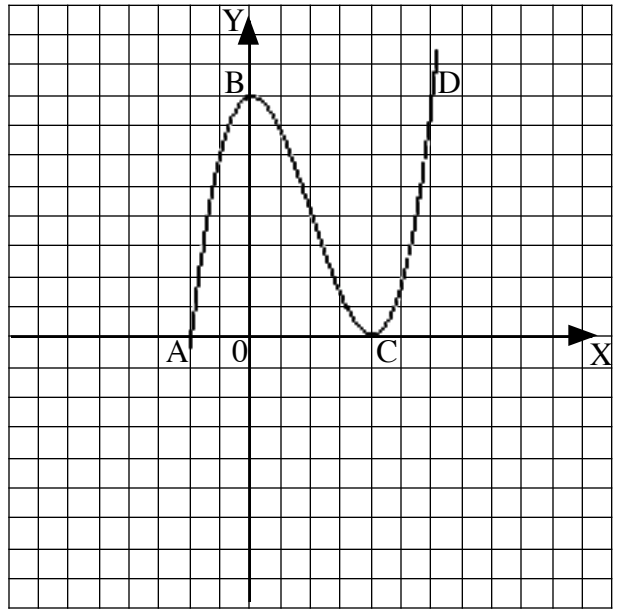
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

14. $y = -1/2 f(x) - 2$



points images

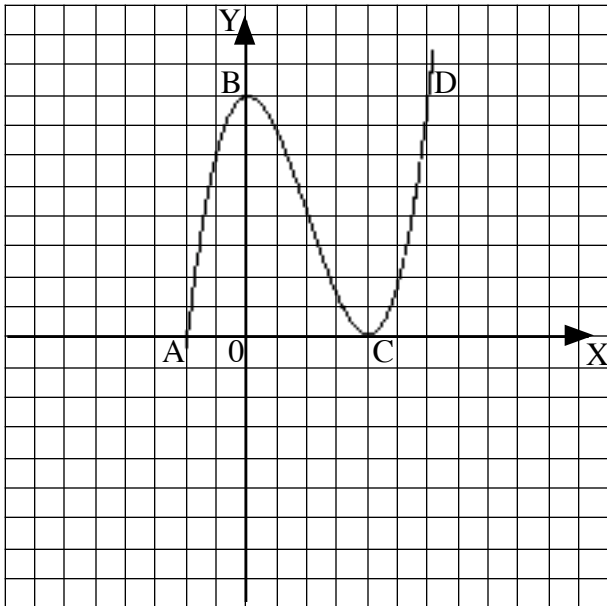
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

15. $y = f(2x)$



points images

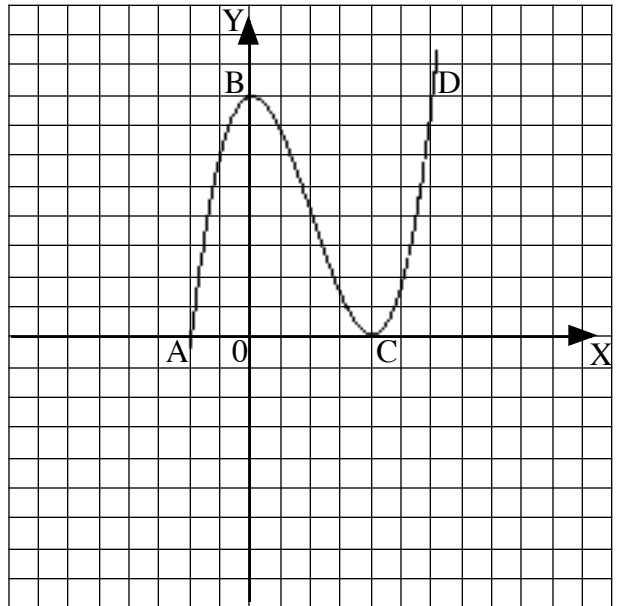
A(-2,0)

B(0,8)

C(4,0)

D(6,8)

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



points images

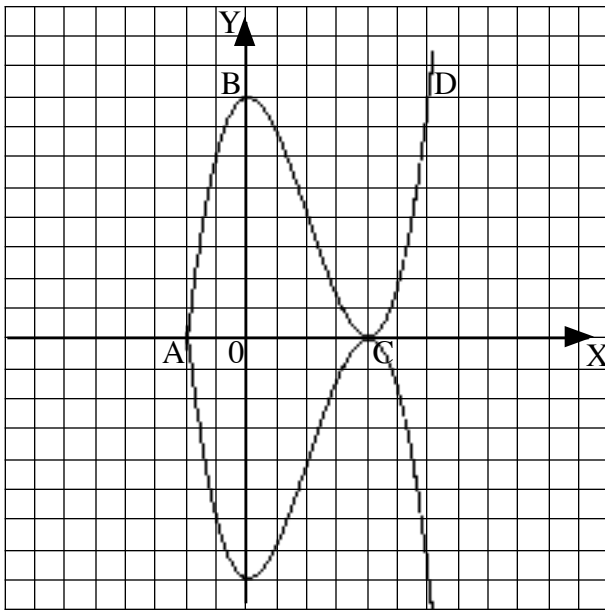
A(-2,0)

B(0,8)

C(4,0)

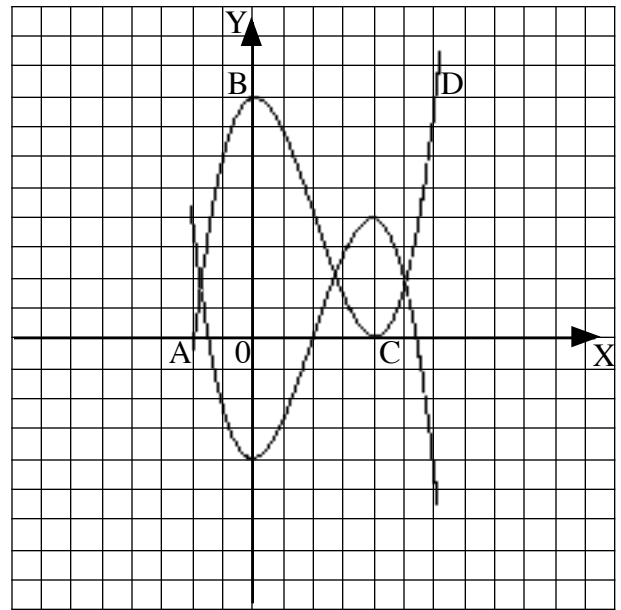
D(6,8)

1. $y = -f(x)$



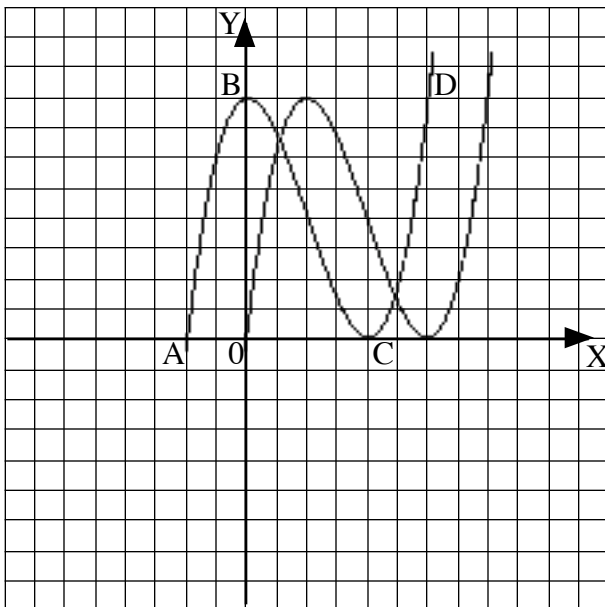
points	images
A(-2,0)	(-2,0)
B(0,8)	(0,-8)
C(4,0)	(4,0)
D(6,8)	(6,-8)

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



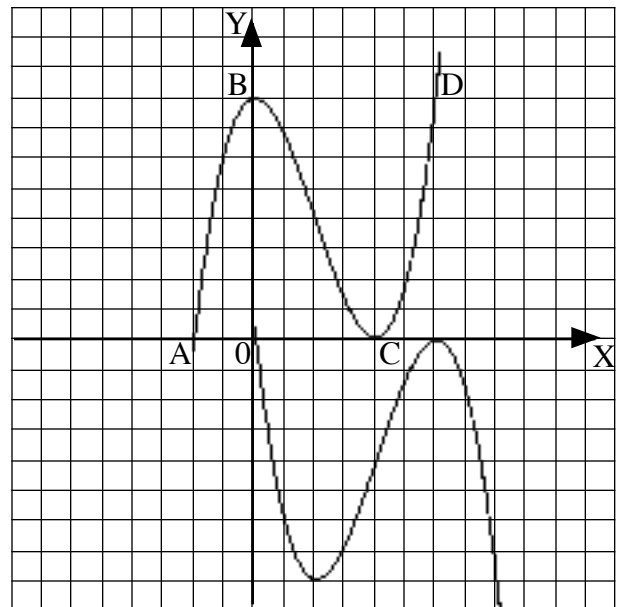
points	images
A(-2,0)	(-2,4)
B(0,8)	(0,-4)
C(4,0)	(4,4)
D(6,8)	(6,-4)

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



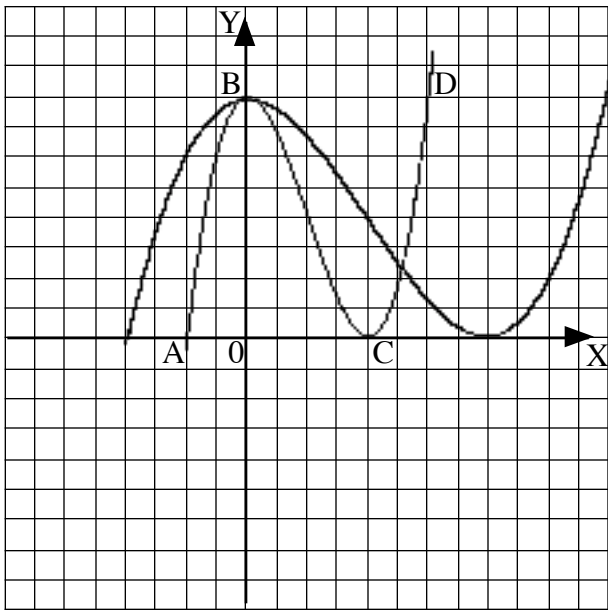
points	images
A(-2,0)	(0,0)
B(0,8)	(2,8)
C(4,0)	(6,0)
D(6,8)	(8,8)

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



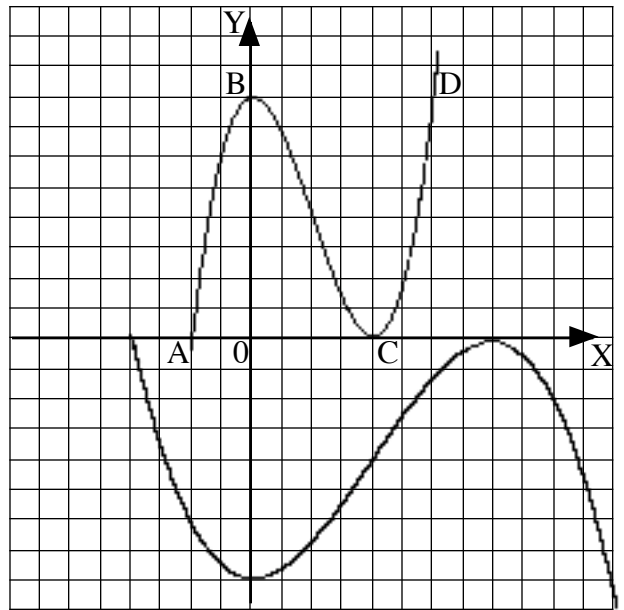
points	images
A(-2,0)	(0,0)
B(0,8)	(2,-8)
C(4,0)	(6,0)
D(6,8)	(8,-8)

5. $y = f(1/2x)$



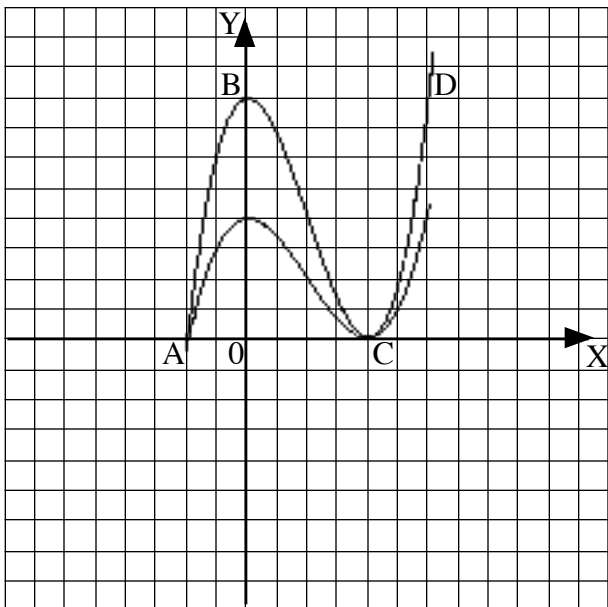
points	images
A(-2,0)	(-4,0)
B(0,8)	(0,8)
C(4,0)	(8,0)
D(6,8)	(12,8)

6. $y = -f(1/2x)$



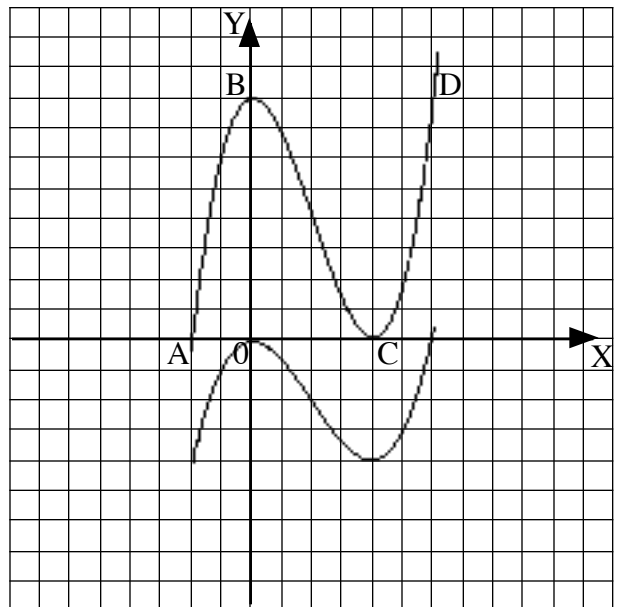
points	images
A(-2,0)	(-4,0)
B(0,8)	(0,-8)
C(4,0)	(8,0)
D(6,8)	(12,-8)

7. $y = 1/2 f(x)$



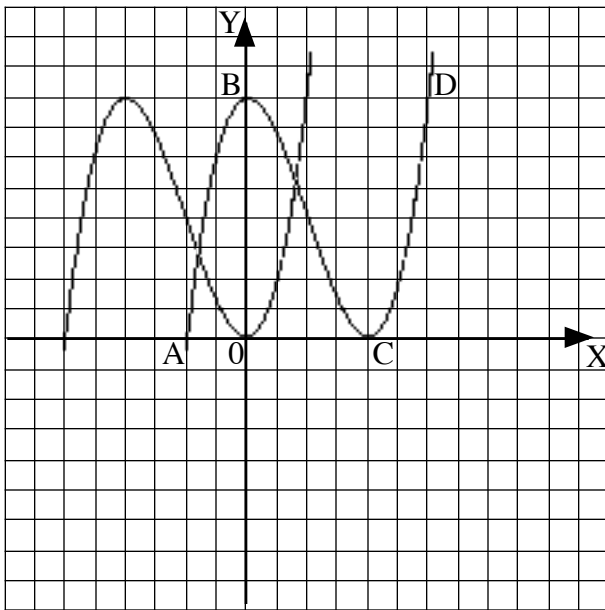
points	images
A(-2,0)	(-2,0)
B(0,8)	(0,4)
C(4,0)	(4,0)
D(6,8)	(6,4)

8. $y = 1/2 f(x) - 4$



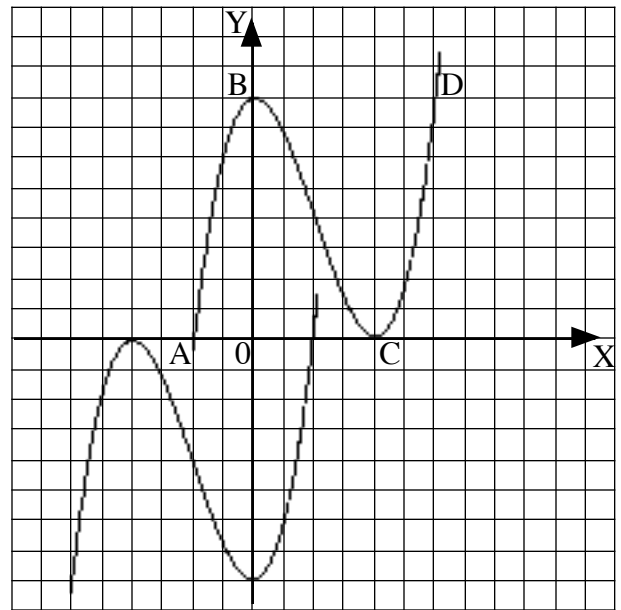
points	images
A(-2,0)	(-2,-4)
B(0,8)	(0,0)
C(4,0)	(4,-4)
D(6,8)	(6,0)

9. $y = f(x+4)$



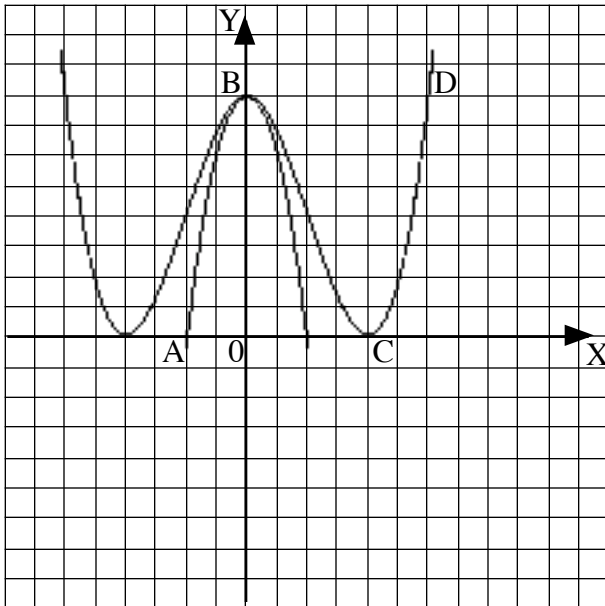
points	images
A(-2, 0)	(-6, 0)
B(0, 8)	(-4, 8)
C(4, 0)	(0, 0)
D(6, 8)	(2, 8)

10. $y = f(x+4) - 8$



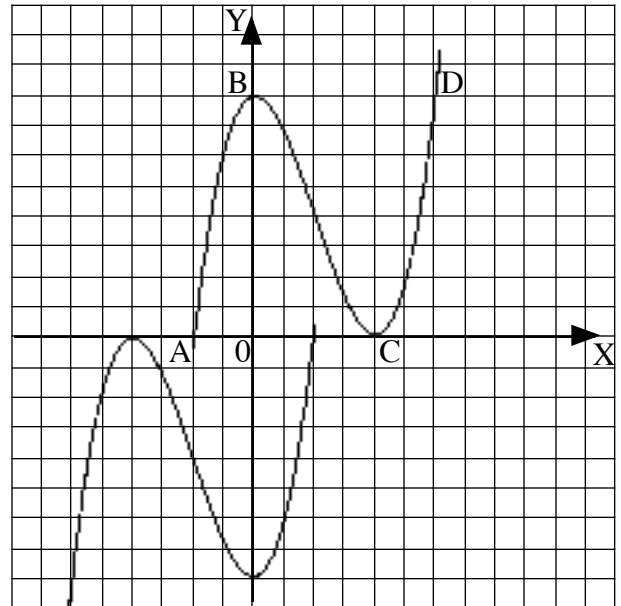
points	images
A(-2, 0)	(-6, -8)
B(0, 8)	(-4, 0)
C(4, 0)	(0, -8)
D(6, 8)	(2, 0)

11. $y = f(-x)$



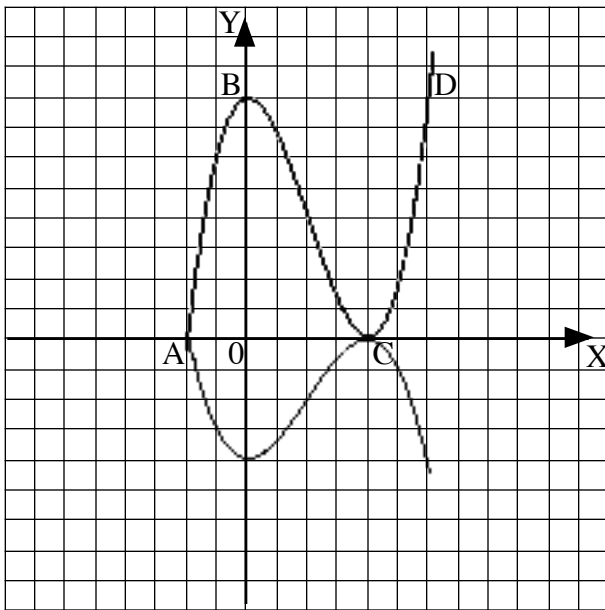
points	images
A(-2, 0)	(2, 0)
B(0, 8)	(0, 8)
C(4, 0)	(-4, 0)
D(6, 8)	(-6, 8)

12. $y = -f(-x)$



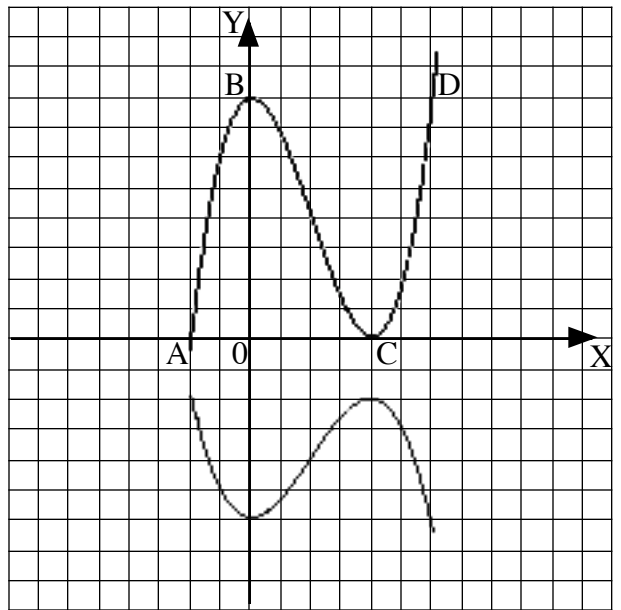
points	images
A(-2, 0)	(2, 0)
B(0, 8)	(0, -8)
C(4, 0)	(-4, 0)
D(6, 8)	(-6, -8)

13. $y = -1/2 f(x)$



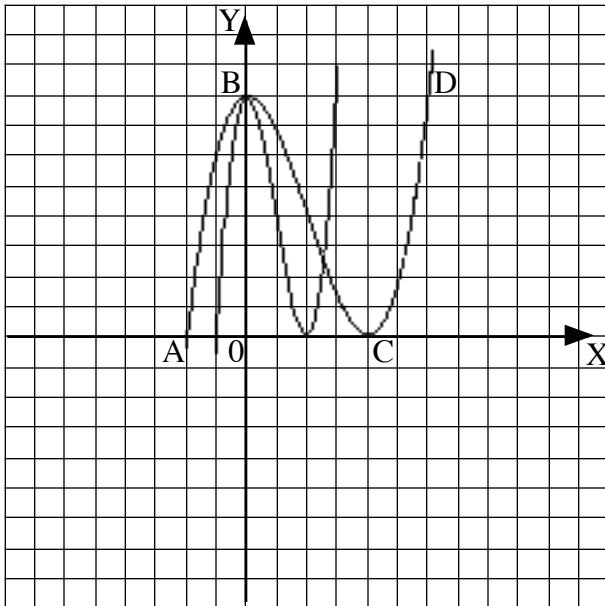
points	images
A(-2,0)	(-2,0)
B(0,8)	(0,-4)
C(4,0)	(4,0)
D(6,8)	(6,-4)

14. $y = -1/2 f(x) - 2$



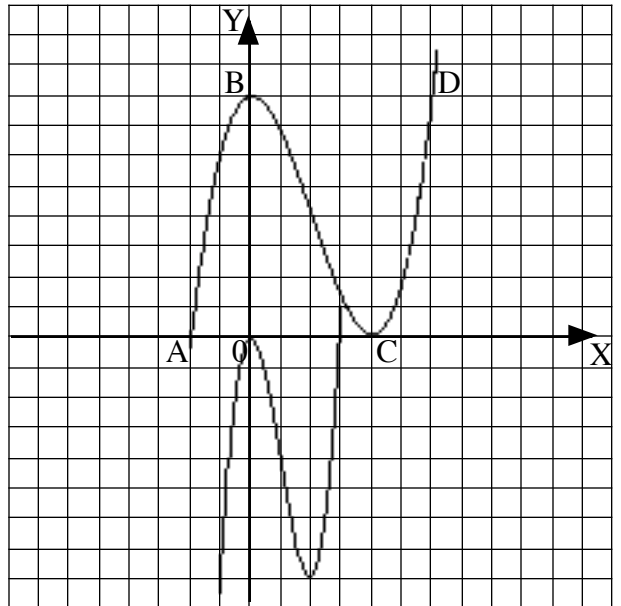
points	images
A(-2,0)	(-2,-2)
B(0,8)	(0,-6)
C(4,0)	(4,-2)
D(6,8)	(6,-6)

15. $y = f(2x)$



points	images
A(-2,0)	(-1,0)
B(0,8)	(0,8)
C(4,0)	(2,0)
D(6,8)	(3,8)

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



points	images
A(-2,0)	(-1,-8)
B(0,8)	(0,0)
C(4,0)	(2,-8)
D(6,8)	(3,0)