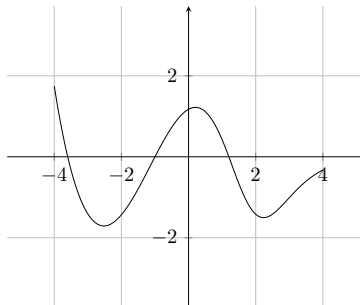
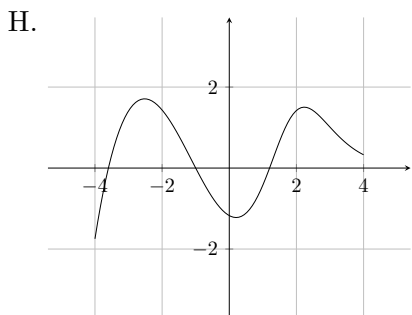
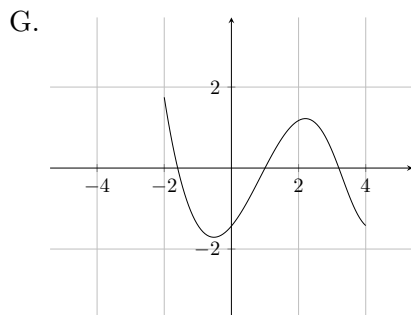
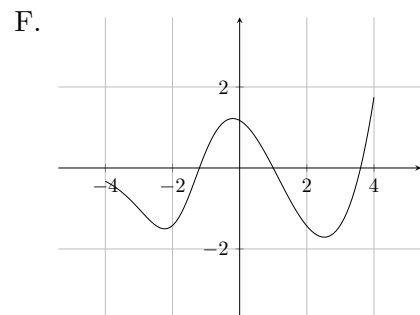
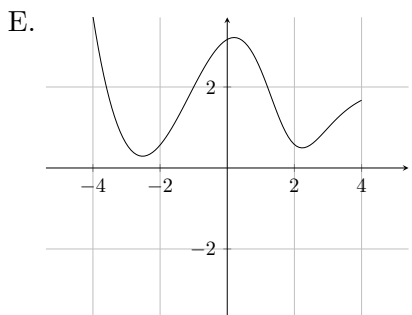
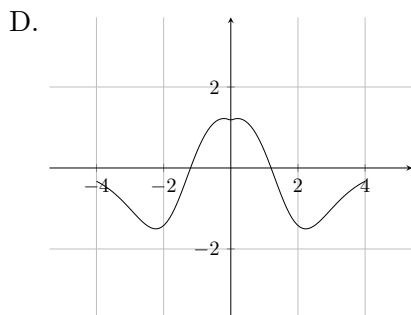
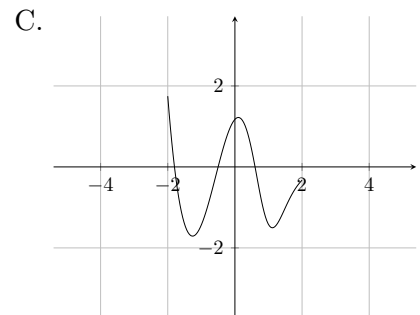
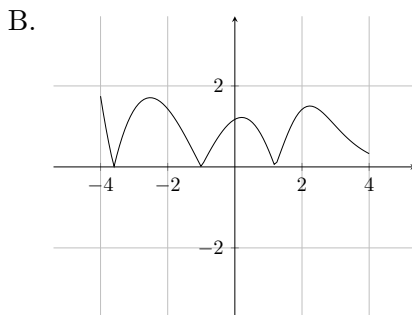
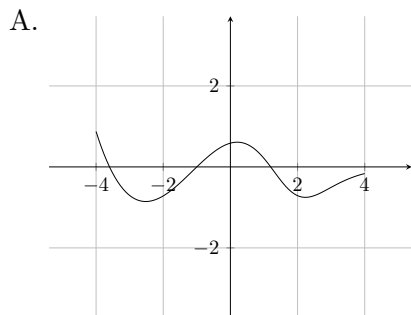


The graph of the function $y = f(x)$ is given:



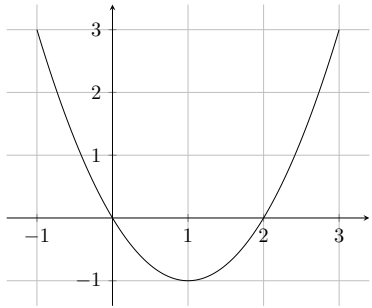
Choose the graph for each of the following functions.

- | | | | |
|-------------------|-----------------|-------------------|--------------------------|
| 1. $y = f(2x)$ | 2. $y = -f(x)$ | 3. $y = f(x - 2)$ | 4. $y = \frac{1}{2}f(x)$ |
| 5. $y = f(x) + 2$ | 6. $y = f(x) $ | 7. $y = f(-x)$ | 8. $y = f(x)$ |



For problems 9–12 choose the equation that yields the given graph.

9.



A. $y = -(x + 1)^2 + 1$

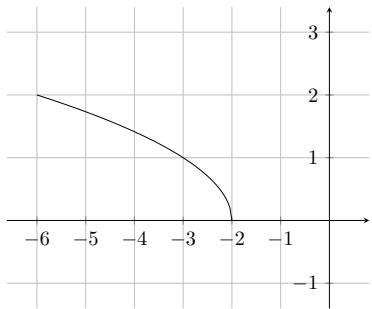
B. $y = (x - 1)^2 - 1$

C. $y = (x - 1)^2 + 1$

D. $y = (x + 1)^2$

E. $y = x^2 + 1$

10.



A. $y = \sqrt{2}\sqrt{-x - 2}$

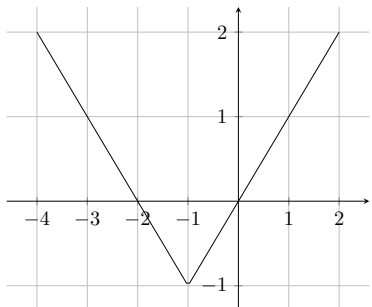
B. $y = \sqrt{2}\sqrt{x + 2}$

C. $y = \sqrt{-x - 2}$

D. $y = \sqrt{x + 2}$

E. $y = \sqrt{2}\sqrt{x - 2}$

11.



A. $y = |x + 1| + 1$

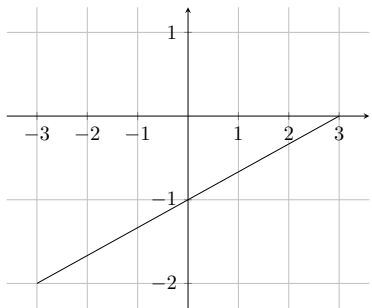
B. $y = -|x - 1|$

C. $y = |x + 1|$

D. $y = |x + 1| - 1$

E. $y = |x| + 1$

12.



A. $y = \frac{1}{3}x - 1$

B. $y = -3x + 1$

C. $y = 3x + 1$

D. $y = -\frac{1}{3}x + 1$

E. $y = 3x - 1$

Answer the following questions for the quadratic function $f(x) = -2x^2 + 4x - 2$ whose graph is a parabola

13. The graph of the functions opens: A. Up B. Down
14. What is the vertex of the parabola?
A. $(-1, 0)$ B. $(1, 0)$ C. $(2, -1)$ D. $(-2, -1)$ E. $(3, 0)$
15. What is the equation of the axis of symmetry for the function?
A. $y = -2$ B. $x = -2$ C. $x = 1$ D. $x = 0$ E. $y = 0$
16. What is the y -intercept of the function?
A. -3 B. -2 C. -1 D. 0 E. 1
17. How many x -intercepts does the function have?
A. None B. 1 C. 2 D. 3 E. 4
18. What is the range of the function?
A. $\{y \mid y \geq 0\}$
B. $\{y \mid y \leq 0\}$
C. $\{y \mid y \geq 1\}$
D. $\{y \mid y \leq 1\}$
E. $\{y \mid y \geq -2\}$
F. $\{y \mid y \leq -2\}$
G. All real numbers.
19. What is the domain of the function?
A. $\{y \mid y \geq 1\}$
B. $\{y \mid y \leq 1\}$
C. $\{y \mid y \geq -2\}$
D. $\{y \mid y \leq -2\}$
E. $\{y \mid y \geq -1\}$
F. $\{y \mid y \leq -1\}$
G. All real numbers.
20. What is the largest interval on which the function is increasing?
A. $(-\infty, -2)$
B. $(-2, \infty)$
C. $(-\infty, 1)$
D. $(1, \infty)$
E. $(-\infty, 2)$
F. $(2, \infty)$
G. All real numbers.

Answers:

1 C

2 H

3 G

4 A

5 E

6 B

7 F

8 D

9 B

10 C

11 D

12 A

13 B

14 B

15 C

16 B

17 B

18 B

19 G

20 C