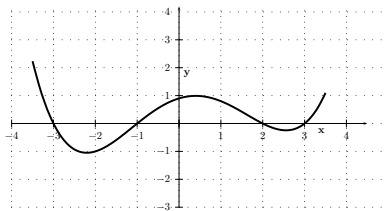
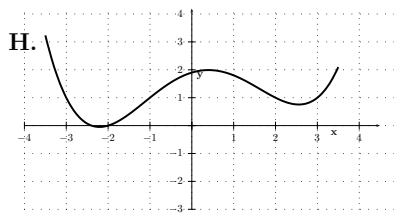
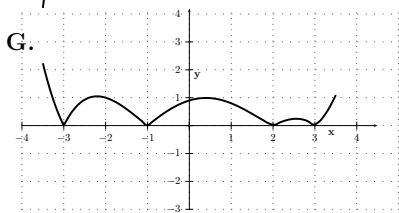
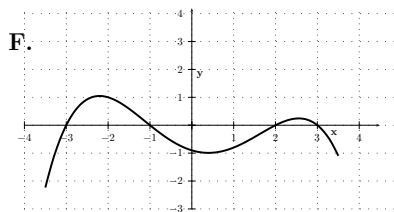
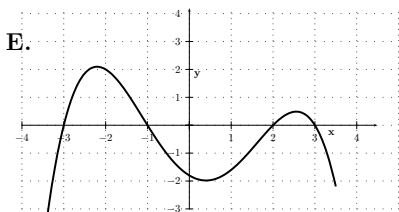
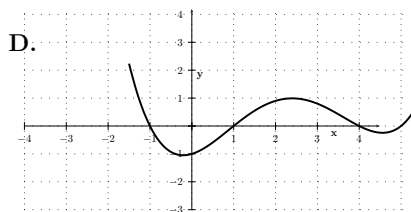
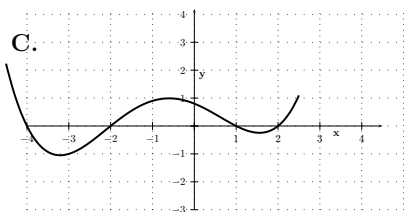
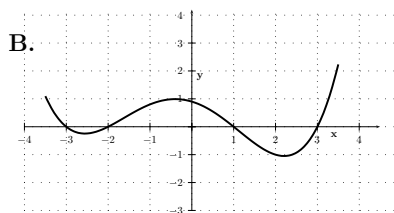
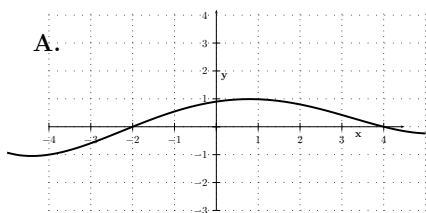


The graph of $y = f(x)$ is given:



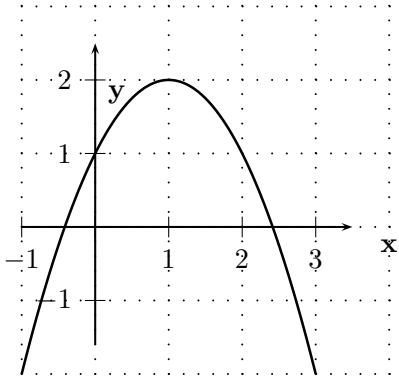
Choose the graph for each of the following functions. An answer may be used more than once.

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



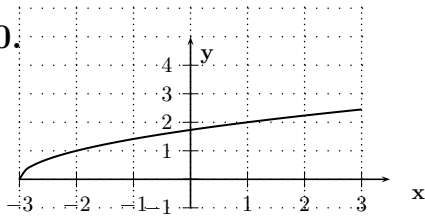
For problems 9-12 choose the equation that yields the given graph.

9.



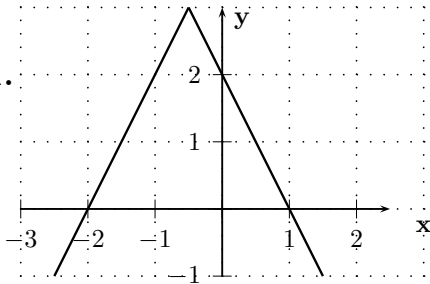
- A. $y = -(x + 1)^2 + 3$
- B. $y = -(x + 1)^2 + 2$
- C. $y = -(x - 1)^2 + 3$
- D. $y = -(x - 1)^2 + 2$
- E. $y = -2(x - 1)^2 + 4$

10.



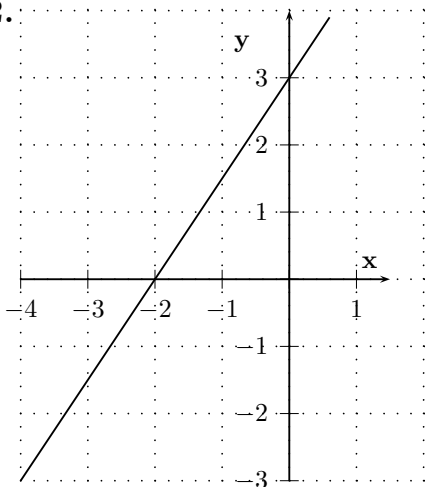
- A. $y = \sqrt{3x}$
- B. $y = \sqrt{x + 3}$
- C. $y = \sqrt{3}\sqrt{x + 3}$
- D. $y = \sqrt{3}\sqrt{3 - x}$
- E. $y = \sqrt{3 - x}$

11.



- A. $y = -2|x - 1| + 3$
- B. $y = -2|x + 1| + 3$
- C. $y = -|x - 1| + 3$
- D. $y = -|x + 1| + 3$
- E. $y = -|2x + 1| + 3$

12.



- A. $3x + 2y = 6$
- B. $3x + 2y = -6$
- C. $3x - 2y = 6$
- D. $3x - 2y = -6$
- E. $2x + 3y = 6$

Answer the following questions for the quadratic function $f(x) = -3x^2 + 18x - 15$ whose graph is a parabola.

13. The graph of the function opens: A. Up B. Down

14. What is the x -coordinate of the vertex of the parabola?

- A. -2 B. -1 C. 0 D. 1 E. 2 F. 3

15. What is the equation of the axis of symmetry for the function?

- A. $x = -2$ B. $x = -1$ C. $x = 0$ D. $x = 1$ E. $x = 2$ F. $x = 3$

16. What is the y -intercept of the function?

- A. -1 B. -5 C. -8 D. -12 E. -15 F. -18

17. How many x -intercepts does the function have?

- A. None B. 1 C. 2 D. 3 E. 4

18. What is the domain of the function?

- A. $\{x|x \geq -1\}$
B. $\{x|x \leq -1\}$
C. $\{x|x \geq 2\}$
D. $\{x|x \leq -2\}$
E. All real numbers

19. What is the range of the function?

- A. $\{y|y \leq 15\}$
B. $\{y|y \leq 12\}$
C. $\{y|y \leq 9\}$
D. $\{y|y \leq 6\}$
E. All real numbers

20. What is the largest interval on which the function is increasing?

- A. $(-\infty, 3)$
B. $(3, \infty)$
C. $(-\infty, -3)$
D. $(-3, \infty)$
E. $(-12, \infty)$

1. C
2. D
3. F
4. E
5. B
6. G
7. H
8. A
9. D
10. B
11. E
12. D
13. B
14. F
15. F
16. E
17. C
18. E
19. B
20. A