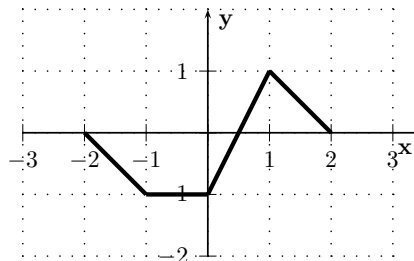
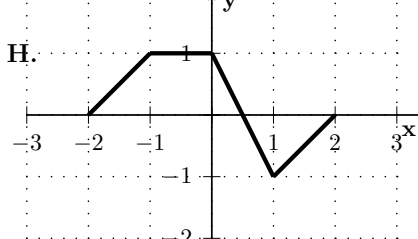
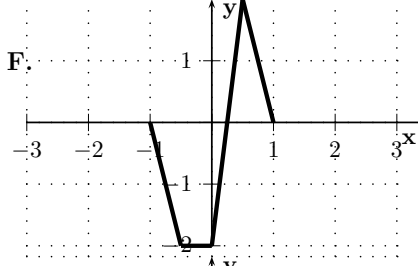
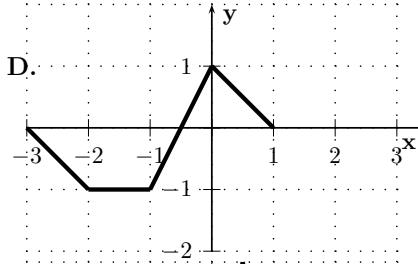
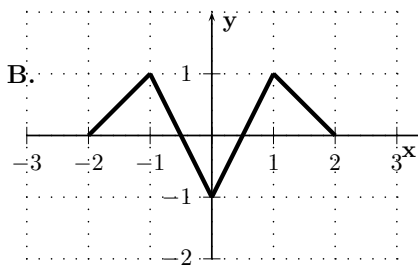
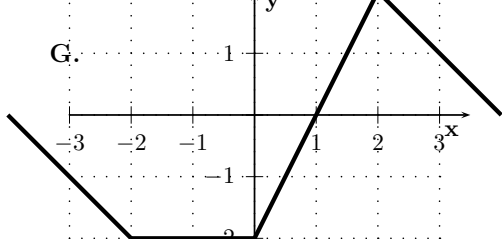
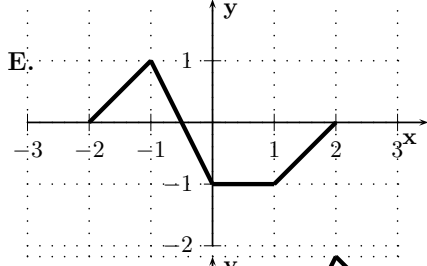
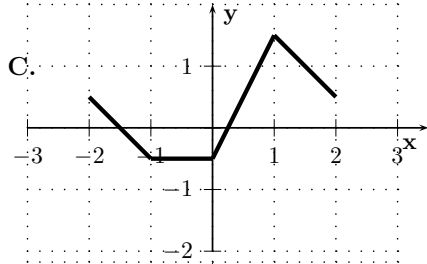
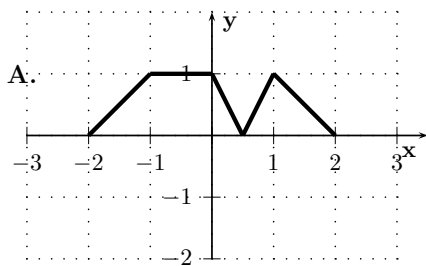


The graph of $y = f(x)$ is given:

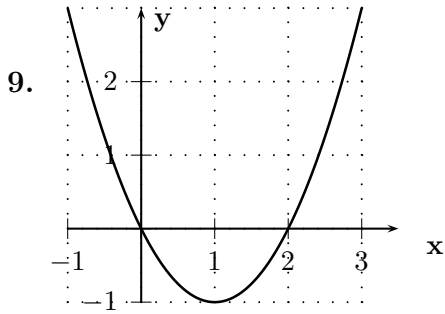


Choose the graph for each of the following functions. An answer may be used more than once.

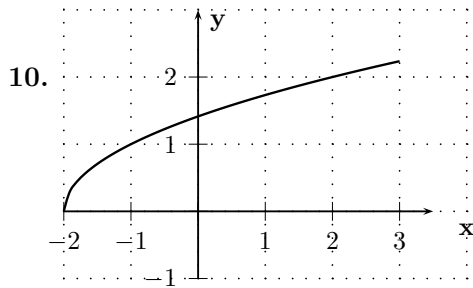
- | | | | |
|-------------------|-----------------------------|--------------------------|-----------------|
| 1. $y = f(x)$ | 2. $y = f(-x)$ | 3. $y = 2f(2x)$ | 4. $y = f(x) $ |
| 5. $y = f(x + 1)$ | 6. $y = f(x) + \frac{1}{2}$ | 7. $y = 2f(\frac{x}{2})$ | 8. $y = -f(x)$ |



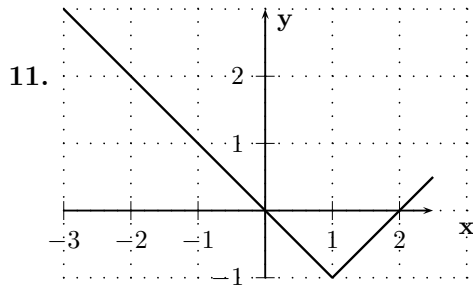
For problems 9-12 choose the equation that yields the given graph.



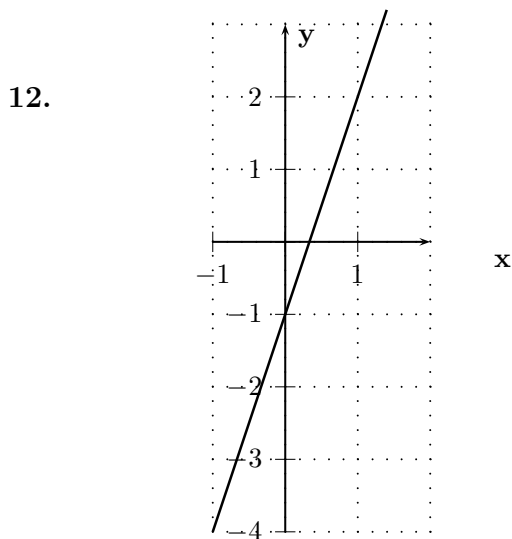
- A. $y = 2(x + 1)^2$
- B. $y = (x + 1)^2 + 1$
- C. $y = (x + 1)^2 - 1$
- D. $y = (x - 1)^2 + 1$
- E. $y = (x - 1)^2 - 1$



- A. $y = \sqrt{2 - x}$
- B. $y = \sqrt{x + 2}$
- C. $y = -\sqrt{2 - x}$
- D. $y = \frac{3}{2}\sqrt{2 - x}$
- E. $y = 2 - \sqrt{x}$



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



- A. $y = 1 - 3x$
- B. $y = 3(x - 1)$
- C. $y = 2x - 1$
- D. $y = 3x - 1$
- E. $y = \frac{1}{3}x - 1$

Answer the following questions for the quadratic function $f(x) = 2x^2 - 12x + 17$ whose graph is a parabola.

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

14. What is the vertex of the parabola?

- A. (3, 1) B. (-3, 1) C. (3, -1) D. (-3, -1) E. (1, 2)

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

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

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

- A. -2 B. -12 C. 17 D. 2 E. -17

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. $\{x|x \geq -3\}$
D. $\{x|x \leq -3\}$
E. All real numbers

19. What is the range of the function?

- A. $\{y|y \geq -1\}$
B. $\{y|y \leq -1\}$
C. $\{y|y \geq 1\}$
D. $\{y|y \leq 1\}$
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. $(3, \infty)$

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