

1. Length = 18
Width = 9
2. First page: 50
Second page: 51
3. Vertex is (-7, 5)
Line of symmetry is $x = -7$
Minimum value of $f(x)$ is 5
 $f(-7) = 5$ is a minimum
Graph A

4.

Solutions: $\frac{7 + \sqrt{181}}{6}, \frac{7 - \sqrt{181}}{6}$

x-intercepts: $\left(\frac{7 + \sqrt{181}}{6}, 0\right), \left(\frac{7 - \sqrt{181}}{6}, 0\right)$

5. 5, -13

6. B

7. $\frac{49 + \sqrt{2409}}{4}, \frac{49 - \sqrt{2409}}{4}$

8. Solutions: $\sqrt{3}, -\sqrt{3}$
x-intercepts: $(\sqrt{3}, 0), (-\sqrt{3}, 0)$

9. $x^2 + 4x - 12$

10. A

11. -3, -1/2

12. 11
84

13. Vertex is (0, 0)
Line of symmetry is $x = 0$
Graph C

14. Vertex is (3, -17)
Line of symmetry is $x = 3$

- Minimum value of $f(x)$ is -17
 $f(3) = -17$ is a minimum
Graph B
15. A
16. Vertex is $(1, 2)$
Line of symmetry is $x = 1$
Maximum value of $f(x)$ is 2
 $f(1) = 2$ is a maximum
Graph C
17. Vertex is $(0, 7)$
Line of symmetry is $x = 0$
Maximum value of $f(x)$ is 7
 $f(0) = 7$ is a maximum
Graph C
18. y-intercept: $(0, 25)$
x-intercept: $(-5/4, 0)$
19. $12, -6$
20. Exact solutions: $\frac{-3 + \sqrt{37}}{2}, \frac{-3 - \sqrt{37}}{2}$
Approximate solutions: $1.541, -4.541$
21. Vertex is $(-3, -5)$
Line of symmetry is $x = -3$
Maximum value of $f(x)$ is -5
 $f(-3) = -5$ is a maximum
Graph D
22. Vertex is $(-1, 0)$
Line of symmetry is $x = -1$
Graph A
23. A