Topic 6 Study Guide Super Studier: Date:

Solve the following.

1. $x(x-5)=0$

2. $(2x+3)(x+6)=0$

3. $(4x+1)(8x-12)(x+3)=0$

4. $x(x-1)(7x+3)(10x-5)=0$

5. A polynomial graph has roots at (-1, 0), (4, 0), and (9, 0). Write a function that could match this graph.

6. Simplify the following.

a. $(12+6i)-(8-9i)$

b. $(12+6i)(8-9i)$

7. What does i represent? What does i^2 represent? What about i^3 or i^4?

8. $6n^2 - 8n + 6 = 0$

9. $5x^2 - 4x = -6$

10. $12t^3 + 6t^2 + 4t = 0$

11. $x^2 + 5 = -5x$

12. $2t^2 + 39 = -18x$

13. $4x^3 + 8x^2 - 1x = 0$