

Name: _____

Alg 2 Quadratics and Complex Numbers Review

Simplify.

1. $\sqrt{75}$

2. $\sqrt{-96}$

3. $\sqrt{28}$

2. $\sqrt{162}$

5. $\sqrt{-245}$

6. $\sqrt{-35}$

7. $4i \cdot 12i$

8. $5i \cdot -6i$

9. $-7i \cdot -3i$

10. i^{13}

11. i^{51}

12. i^{76}

13. $(7i - 8) - (18 - 2i)$

14. $(10 - 5i) - (2i + 13)$

15. $(4 - 3i) - (-5 - 7i)$

16. $(2 + 10i) + (6 - 7i)$

17. $(-6i + 1) + (3 - 4i)$

18. $(-i - 8) + (21 - 21i)$

19. $(1 + 3i)(5 + 8i)$

20. $(3 - 7i)(4 - 2i)$

21. $(-7 + 6i)(9 - 5i)$

Find the key features (vertex, x- and y-intercepts) and use those to graph.

22. $f(x) = x^2 + 2x + 6$

Vertex:

y-intercept:

x-intercept(s):

23. $f(x) = -(x - 1)(x + 5)$

Vertex:

y-intercept:

x-intercept(s):

24. $f(x) = \frac{1}{4}(x - 2)^2 - 1$

Vertex:

y-intercept:

x-intercept(s):

