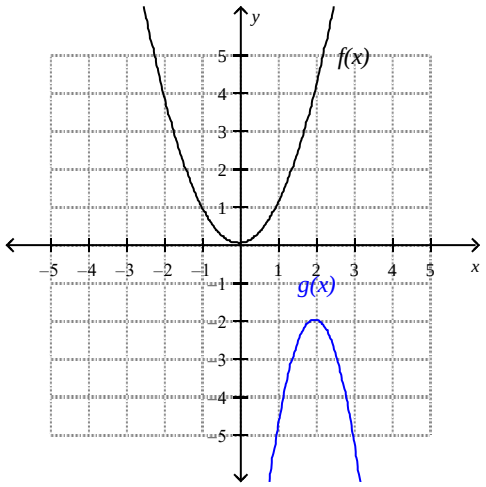
Algebra II Semester 1 Final Review Answer Section

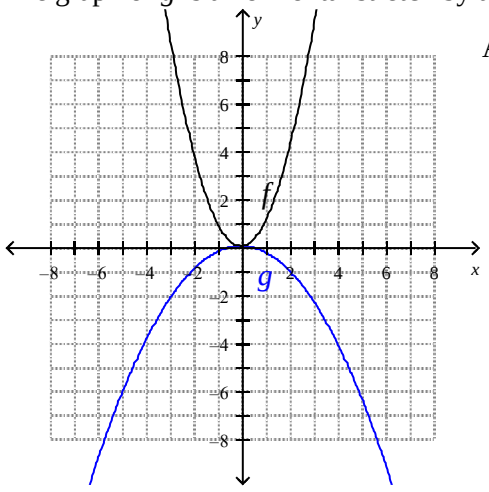
1. 

The graph of *g* is a translation 2 units right, a vertical stretch, a reflection in the x-axis, and a translation 2 units down of the parent quadratic function.
Algebra 2 Sec. 1.1

2. $g(x) = |5x + 4|$
Algebra 2 Sec. 1.2

3. $g(x) = 3x - 2$
Algebra 2 Sec. 1.2

4. z = - 4
Algebra 2 Sec. 1.4

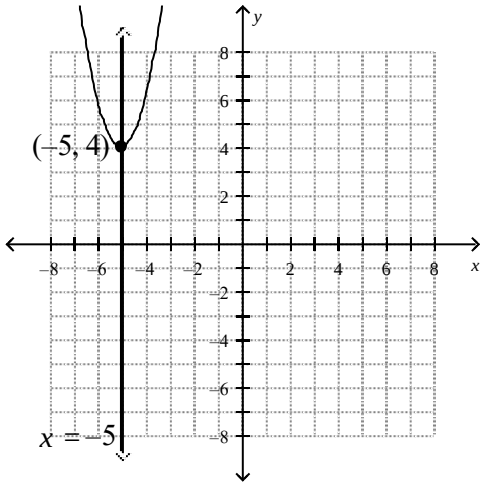
5. The graph of *g* is a horizontal stretch by a factor of 2 and a reflection in the *x*-axis of the graph of *f*.


Algebra 2 Sec. 2.1

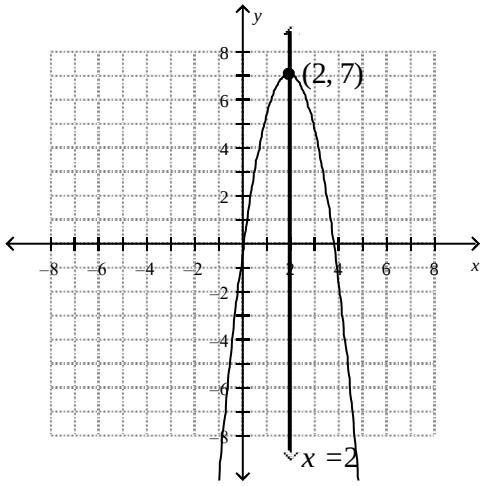
6. $y = \frac{1}{6}(x - 6)(x + 1)$
Algebra 2 Sec. 2.4

7. $g(x) = \frac{1}{3}x^2 - 4;\ (0, -4)$

   Algebra 2 Sec. 2.1

8. 

   Algebra 2 Sec. 2.2

9. 

   Algebra 2 Sec. 2.2

10. $y = -0.25(x + 7)^2 - 6$

    Algebra 2 Sec. 2.4

11. $x = -3$

    Algebra 2 Sec. 3.1

12. $x = 2 \pm \frac{\sqrt{33}}{3}$

    Algebra 2 Sec. 3.1

13. $y = 1$ and $y = 6$
Algebra 2 Sec. 3.1

14. $a = -2$ and $a = 2$
Algebra 2 Sec. 3.1

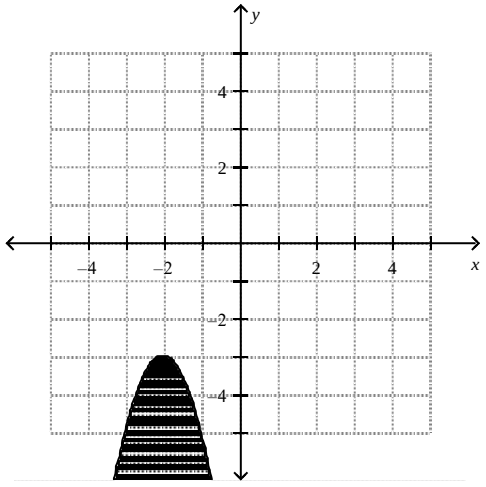
15. $x = 1 \pm 7i$
Algebra 2 Sec. 3.3

16. $x = \dfrac{-1 \pm 5\sqrt{3}}{3}$
Algebra 2 Sec. 3.3

17. $x = \dfrac{-3 \pm i\sqrt{23}}{8}$
Algebra 2 Sec. 3.4

18. $(-5, 3)$ and $(7, -9)$
Algebra 2 Sec. 3.5

19. $-7 < x < -2$
Algebra 2 Sec. 3.6

20.


Algebra 2 Sec. 3.6

21. $x = \pm i\sqrt{34}$
Algebra 2 Sec. 3.2

22. $4 + 7i$
Algebra 2 Sec. 3.2

23. $77 + 7i$
Algebra 2 Sec. 3.2

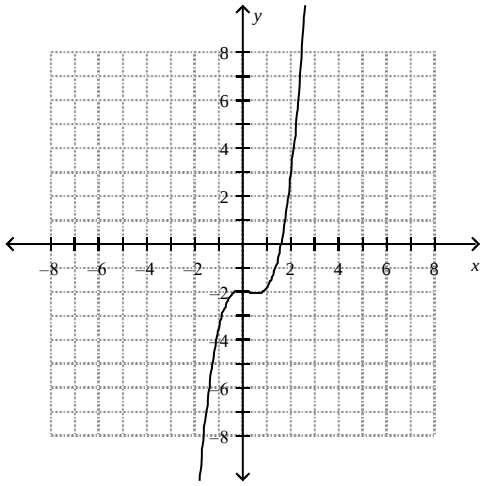
24. D
Algebra 2 Sec. 3.3

25. 328; two real solutions
Algebra 2 Sec. 3.4

26. about 1.7 sec
Algebra 2 Sec. 3.4

27. $c(x) \to -\infty$ as $x \to -\infty$ and $c(x) \to \infty$ as $x \to \infty$
Algebra 2 Sec. 4.1

28.



Algebra 2 Sec. 4.1

29. $16x^5 - x^4 + 7x^3 + 7x^2 + 3x - 9$
Algebra 2 Sec. 4.2

30. $12x^3 - 42x^2 + 46x - 40$
Algebra 2 Sec. 4.2

31. $16d^4 - 128d^3 + 384d^2 - 512d + 256$
Algebra 2 Sec. 4.2

32. $8x^2 + 13x + 18 + \dfrac{23x - 68}{x^2 - 2x + 1}$
Algebra 2 Sec. 4.3

33. $x^3 + 5x^2 + 5x - 6 + \frac{6}{x-1}$
Algebra 2 Sec. 4.3

34. $4r^4(r-7)(r-8)$
Algebra 2 Sec. 4.4

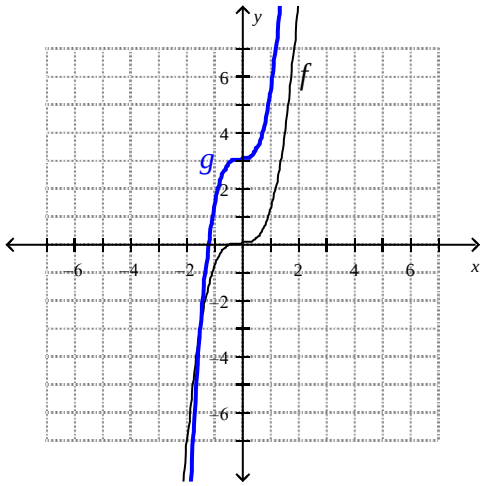
35. $m^4(m+5)(m^2-5m+25)$
Algebra 2 Sec. 4.4

36. $(4h+5)(4h-5)(h-9)$
Algebra 2 Sec. 4.4

37. $(25a^2+9)(5a+3)(5a-3)$
Algebra 2 Sec. 4.4

38. $x^5 - 15x^4 + 90x^3 - 270x^2 + 405x - 243$
Algebra 2 Sec. 4.2

39. The graph of g is a horizontal shrink by a factor of $\frac{1}{2}$ and a translation 3 units up of the graph of f.



Algebra 2 Sec. 4.7

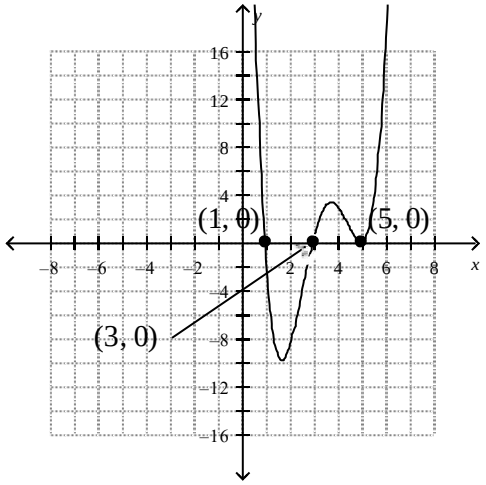
40. –1, $\frac{3}{4}$, and 3
Algebra 2 Sec. 4.8

41. $f(x) = x^3 + 6x^2 - 11x - 116$
Algebra 2 Sec. 4.6

42. $f(x) = -\frac{3}{8}(x+4)(x+2)(x-1)$

Algebra 2 Sec. 4.9

43.



Algebra 2 Sec. 4.8