Algebra 2
Chapter 7A Review

Name: _____
Period: _____

For each function, find the vertex and then rewrite the equation in standard form.

1. $a(x)=-2(x+4)^2+5$

2. $b(x)=3(x-2)^2+4$

For each function, rewrite the equation in factored form and then find the zeros.

3. $c(x)=(x+3)^2-9$

4. $d(x)=\left(x+\frac{5}{2}\right)^2-\frac{9}{4}$

For each function, rewrite the equation in vertex form and then find the vertex.

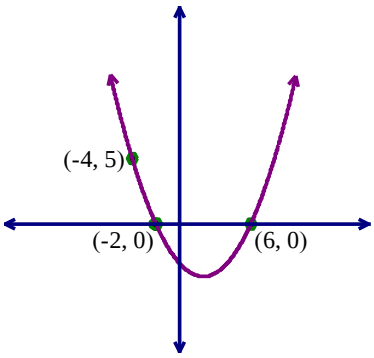
5. $f(x)=x^2+12x+11$

6. $g(x)=2x^2-12x+28$

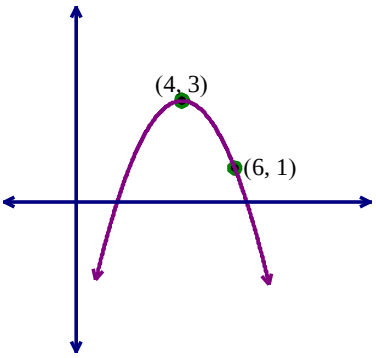
7. Rewrite $h(x)=-2x(x-6)$ in vertex form.

For each graph, write the equation of the function in the given form.

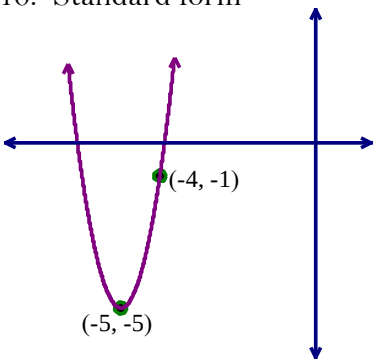
8. Factored form



9. Vertex form



10. Standard form



Sketch a complete graph of each function.

11. $j(x)=-2(x-1)^2+8$

12. $k(x)=-3x^2+6x$

13. $m(x)=x^2-4x+3$

For each function, find the discriminant and determine the number and type of roots.

14. $n(x)=2x^2+5x+7$

15. $p(x)=3x^2-12x+12$

16. $r(x)=\frac{1}{2}x^2-6x-5$

Factor.

17. $2x^4-7x^3-30x^2$

18. $4x^4+13x^3-12x^2$

Solve for x.

19. $3x^2+20x^2-7x=0$

20. $5x^3-28x^2=12x$

21. $4x^2+4x-8=1$

22. $9x^2-11=6x$

Rewrite each function in vertex form by completing the square.

23. $f(x)=x^2-40x+9$

24. $g(x)=6x^2-12x-41$

25. $h(x)=-5x^2+40x+200$

26. $j(x)=x^2+9x-3$

27. $k(x)=-4x^2-56x+3$

28. $m(x)=3x^2+15x+20$