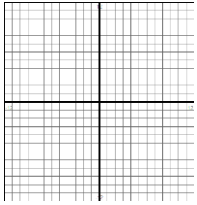


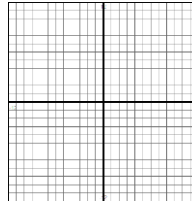
Chapter 2 Review A

Describe the transformation of $f(x) = x^2$ represented by g . Then graph each function.

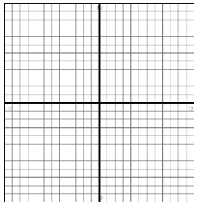
1. $g(x) = -3(x + 2)^2 + 4$



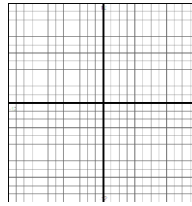
2. $g(x) = \frac{1}{2}(x + 5)^2 - 3$



3. $g(x) = 2(x - 2)^2 + 3$



4. $g(x) = -(x - 6)^2 - 1$



5. The graph of g is a translation 7 units up, followed by a vertical stretch of 2 of the graph $f(x) = x^2$. Write a rule for g .

6. The graph of g is a translation 1 unit right and 2 units down, followed by a reflection across the x -axis of the graph $f(x) = x^2 + 1$. Write a rule for g .

7. The graph of g is a translation 4 units left, followed by a vertical stretch of 3 of the graph $f(x) = (x + 1)^2 - 3$. Write a rule for g .

8. The graph of g is a translation 2 units left and 3 units up, followed by a reflection across the x -axis of the graph $f(x) = (x - 2)^2 + 5$. Write a rule for g .

9. The graph of g is a translation 5 units right, 2 units up, followed by a vertical shrink of $\frac{1}{2}$ of the graph

$f(x) = 2(x + 1)^2 - 4$. Write a rule for g .

10. The graph of g is a translation 3 units right and 1 units up, vertical stretch of 2, followed by a reflection across the x -axis of the graph $f(x) = 3(x - 4)^2 + 3$. Write a rule for g .

Find the vertex, the axis of symmetry, the minimum value or maximum value of the function, and the domain and range of the function.

11. $f(x) = -2(x - 4)^2 - 3$

Vertex: _____ AS: _____

Min or Max: _____

Domain: _____ Range: _____

12. $h(x) = x^2 + 2x - 8$

Vertex: _____ AS: _____

Min or Max: _____

Domain: _____ Range: _____

13. $f(x) = 2x^2 + 8x - 5$

Vertex: _____ AS: _____

Min or Max: _____

Domain: _____ Range: _____

14. $h(x) = 3(x + 1)^2 + 4$

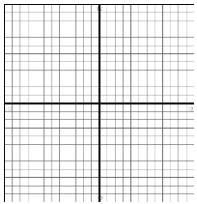
Vertex: _____ AS: _____

Min or Max: _____

Domain: _____ Range: _____

Graph the function.

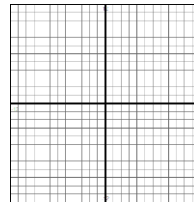
15. $f(x) = -(x - 1)(x - 5)$



x-intercepts: _____

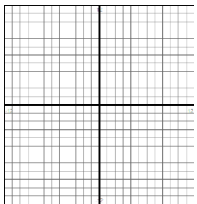
Vertex: _____ AS: _____

16. $f(x) = 2x^2 + 24x + 71$



Vertex: _____ AS: _____

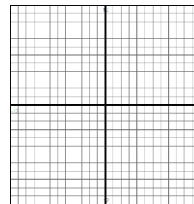
17. $f(x) = (x - 3)(x + 1)$



x-intercepts: _____

Vertex: _____ AS: _____

18. $f(x) = 3x^2 + 12x + 10$



Vertex: _____ AS: _____

Write the equation of the quadratic with the given characteristics for #19-26.

19. passes through $(-5,6)$ and has a vertex $(-9,-2)$

20. x -intercepts: -9 and 9 ; passes through $(0,4)$

21. x -intercepts: -5 and 5 ; passes through $(0,-5)$

22. passes through $(6,2)$ and has a vertex $(3,-4)$

23. passes through $(9,1)$ and has a vertex $(1,-3)$

24. x -intercepts: -2 and 4 ; passes through $(2,-16)$

25. x -intercepts: -5 and 1 ; passes through $(3,4)$

26. passes through $(10,-1)$ and has a vertex $(-2,3)$