Answer Key

Lesson 10.1

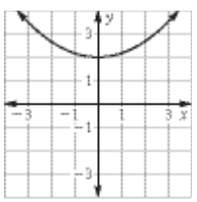
Practice Level C

1.

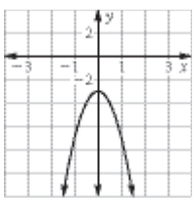
x	-2	-1	0	1	2
y	36	6	-4	6	36

2.

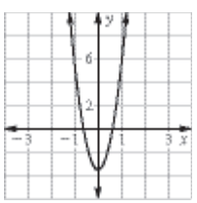
x	-2	-1	0	1	2
y	-3	1.5	3	1.5	-3

3. 

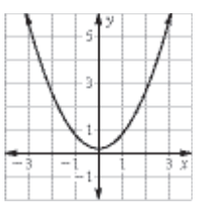
domain: all reals;
range: $y \geq 2$;
vertical shrink by a factor of $\frac{1}{6}$ and vertical shift 2 units up

4. 

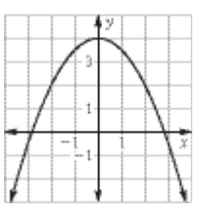
domain: all reals;
range: $y \leq -3$;
vertical stretch by a factor of 4, reflection in x-axis, and shift 3 units down

5. 

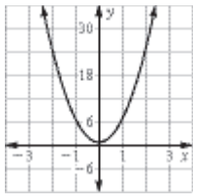
domain: all reals;
range: $y \geq -\frac{7}{2}$;
vertical stretch by a factor of 9 and vertical shift $\frac{7}{2}$ units down

6. 

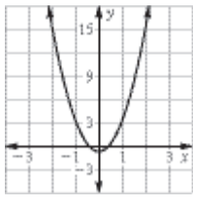
domain: all reals;
range: $y \geq \frac{1}{5}$;
vertical shrink by a factor of $\frac{3}{5}$ and vertical shift $\frac{1}{5}$ unit up

7. 

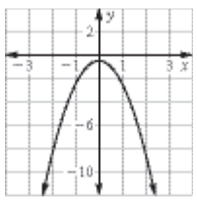
domain: all reals;
range: $y \leq 4$;
vertical shrink by a factor of $\frac{1}{2}$, reflection in x-axis, and vertical shift 4 units up

8. 

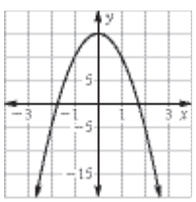
domain: all reals;
range: $y \geq \frac{3}{4}$;
vertical stretch by a factor of 6 and vertical shift $\frac{3}{4}$ unit up

9. 

domain: all reals;
range: $y \geq -\frac{2}{3}$;
vertical stretch by a factor of 4 and vertical shift $\frac{2}{3}$ unit down

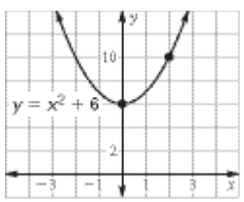
10. 

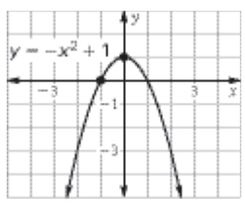
domain: all reals;
range: $y \leq -\frac{1}{2}$;
vertical stretch by a factor of 2, reflection in x-axis, and vertical shift $\frac{1}{2}$ unit down

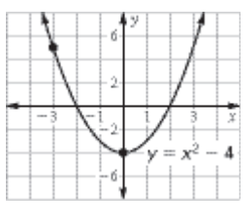
11. 

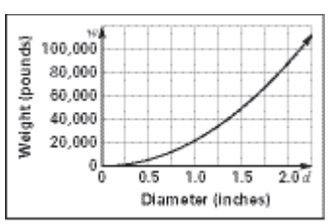
domain: all reals;
range: $y \leq 15$;
vertical stretch by a factor of 5, reflection in x-axis, and vertical shift 15 units up

12. shift the graph of f 8 units down **13.** shift the graph of f 5 units down **14.** shift the graph of f 4 units down **15.** shift the graph of f 16 units up **16.** stretch the graph of f vertically by a factor of 3 **17.** shrink the graph of f vertically by a factor of $\frac{1}{2}$

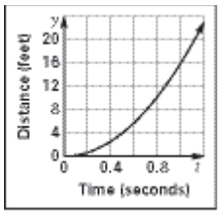
18. 

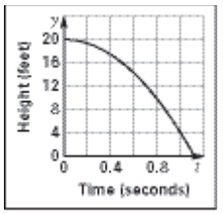
19. 

20. 

21. a. 

b. about 1.5 in.

22. a. 

b. 

c. The second graph is a transformation of the first graph. The first graph has been reflected in the x-axis and shifted 20 units up to obtain the second graph. For the first graph, find the value of t when $y = 8$. For the second graph, find the value of
t when $y = 12$.