Name _____ Date _____

LESSON 10.1

Practice C

For use with pages 628–634

Use the quadratic function to complete the table of values.

1. $y = 10x^2 - 4$

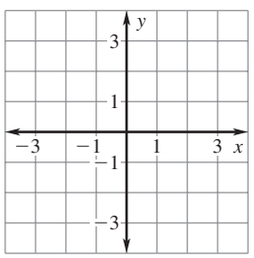
x	-2	-1	0	1	2
y	?	?	?	?	?

2. $y = -1.5x^2 + 3$

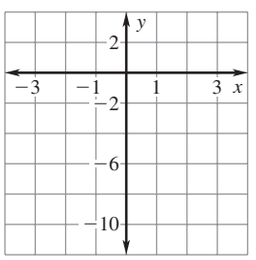
x	-2	-1	0	1	2
y	?	?	?	?	?

Graph the function and identify its domain and range. Compare the graph with the graph of $y = x^2$.

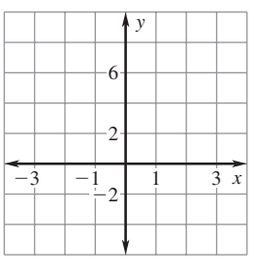
3. $y = \frac{1}{6}x^2 + 2$



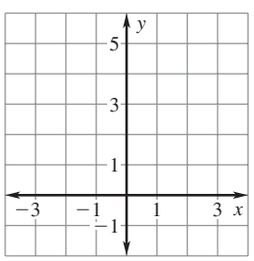
4. $y = -4x^2 - 3$



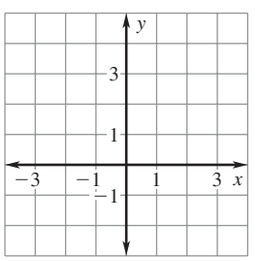
5. $y = 9x^2 - \frac{7}{2}$



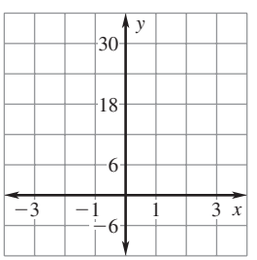
6. $y = \frac{3}{5}x^2 + \frac{1}{5}$



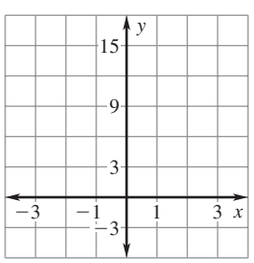
7. $y = -\frac{1}{2}x^2 + 4$



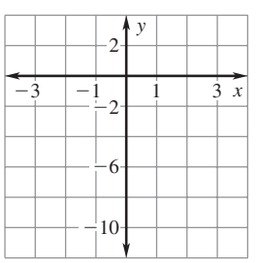
8. $y = 6x^2 + \frac{3}{4}$



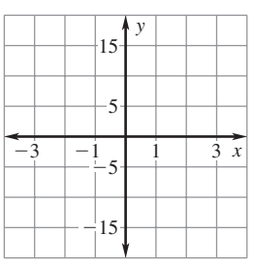
9. $y = 4x^2 - \frac{2}{3}$



10. $y = -2x^2 - \frac{1}{2}$



11. $y = -5x^2 + 15$



Name _____ Date _____

LESSON 10.1

Practice C *continued*

For use with pages 628–634

Tell how you can obtain the graph of *g* from the graph of *f* by using transformations.

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

13. $f(x) = 2x^2 + 14$
$g(x) = 2x^2 + 9$

14. $f(x) = -\frac{1}{2}x^2 - 3$
$g(x) = -\frac{1}{2}x^2 - 7$

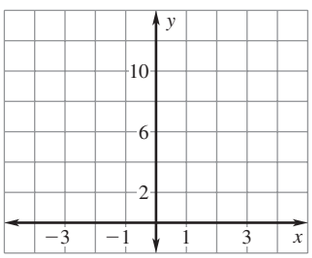
15. $f(x) = 3x^2 - 5$
$g(x) = 3x^2 + 11$

16. $f(x) = 3x^2$
$g(x) = 9x^2$

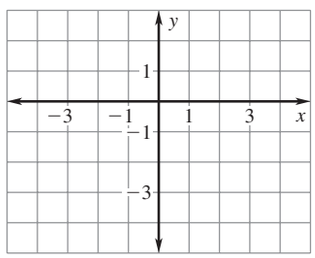
17. $f(x) = 8x^2$
$g(x) = 4x^2$

Write a function of the form $y = ax^2 + c$ whose graph passes through the two given points. Then graph the function.

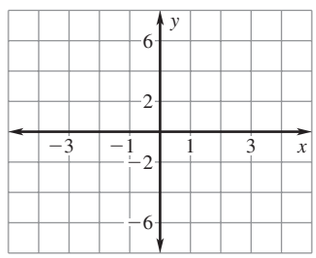
18. (0, 6), (2, 10)



19. (0, 1), (−1, 0)



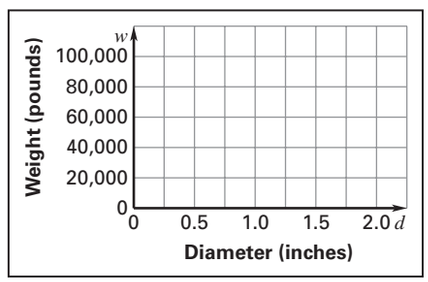
20. (0, −4), (−3, 5)



21. Nylon Rope The breaking weight w (in pounds) of a nylon rope can be modeled by the function $w = 22{,}210d^2$ where d is the diameter (in inches) of the rope.

a. Graph the function.

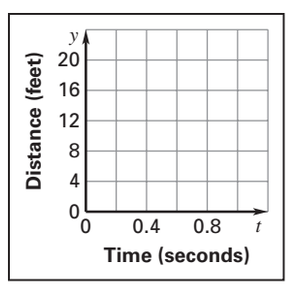
b. Use the graph to estimate the diameter of a nylon rope that has a breaking weight of 50,000 pounds.

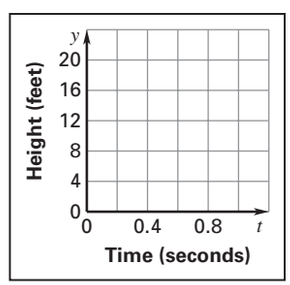


22. Foam Ball A foam ball is dropped from a deck that is 20 feet above the ground.

a. The distance y (in feet) that the ball falls is given by the function $y = 16t^2$ where t is the time (in seconds) since the ball was dropped. Graph the function.

b. The height y (in feet) of the dropped ball is given by the function $y = -16t^2 + 20$ where t is the time (in seconds) since the ball was dropped. Graph the function.





c. How are the graphs from part (a) and part (b) related? *Explain* how you can use each graph to find the number of seconds after which the ball has dropped 8 feet.