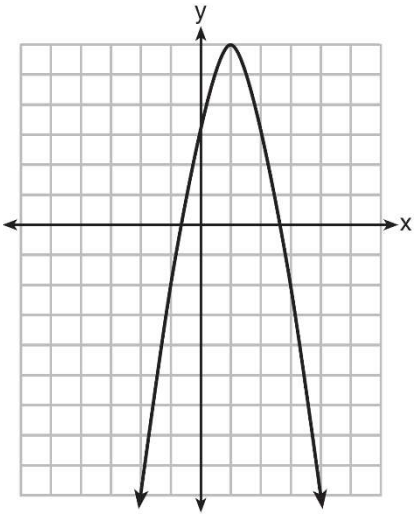
Name _____ Date _____
Mr. Schlansky Algebra II

Key Points

1. Let f be the function represented by the graph below.



Let g be a function such that $g(x) = -\frac{1}{2}x^2 + 4x + 3$. Determine which function has the larger maximum value. Justify your answer.

13. Which function has the largest maximum?

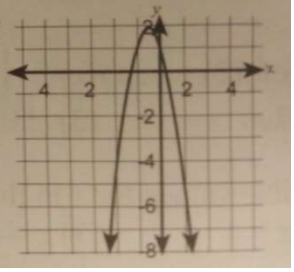
(1) $y = -x^2 + 2x - 1$

(2)

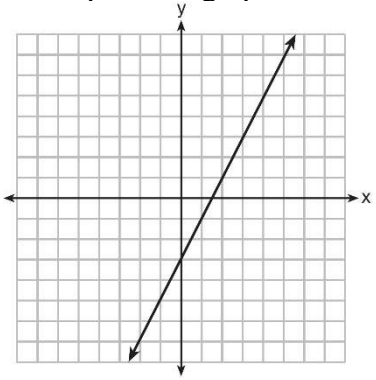
x	y
–3	–2
–2	1
–1	2
0	1
1	–2

(3) $y = -2x^2 - 3x + 4$

(4)



3. Which function has the same y-intercept as the graph below?



1) $y = \frac{12 - 6x}{4}$
2) $27 + 3y = 6x$
3) $6y + x = 18$
4) $y + 3 = 6x$

4. Which quadratic function has the largest maximum?

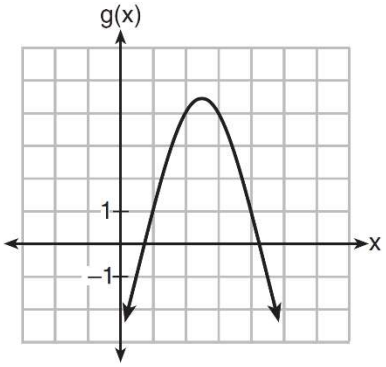
1) $h(x) = (3 - x)(2 + x)$

2)

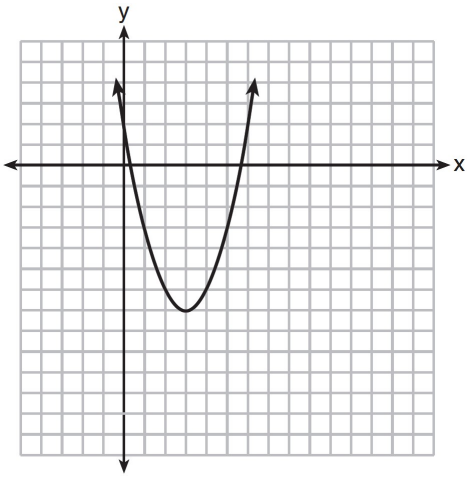
x	f(x)
−1	−3
0	5
1	9
2	9
3	5
4	−3

3) $k(x) = -5x^2 - 12x + 4$

4)



5. The graph representing a function is shown below.

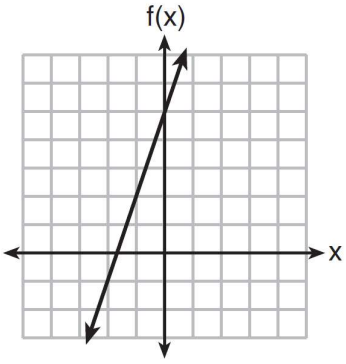


Which function has a minimum that is *less* than the one shown in the graph?

1) $y = x^2 - 6x + 7$
2) $y = |x + 3| - 6$
3) $y = x^2 - 2x - 10$
4) $y = |x - 8| + 2$

6. Which function has the greatest y-intercept?

1) $f(x) = 3x$
2) $2x + 3y = 12$
3) the line that has a slope of 2 and passes through $(1, -4)$
4)



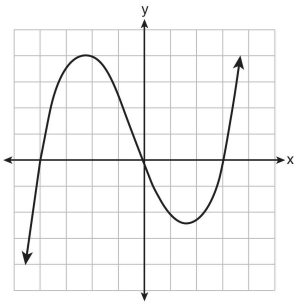
7. The x-value of which function's x-intercept is larger, f or h? Justify your answer.

$$f(x) = \log(x-4)$$

x	h(x)
−1	6
0	4
1	2
2	0
3	−2

8. Which function has the highest local maximum?

$f(x) = x^3 + 4x^2 - 2x - 8$ $\qquad$ $g(x)$

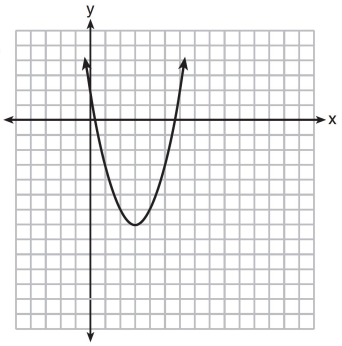


9. Which graph has the greatest y-intercept?

x	f(x)
−1	−3
0	5
1	9
2	9
3	5
4	−3

$$g(x) = \left(\frac{1}{2}\right)^{x+1} + 3$$

$h(x)$



10. Which graph has a smaller relative minimum?

$g(x) = x^3 + 4x^2 - 2x - 10$