

Graded Homework 4

If $f(x) = 3x - 4$ and $g(x) = x^2 + 2x$, find: (see pages 576 to 580)

1. $f(2) + g(1)$

2. $f(0) - g(1)$

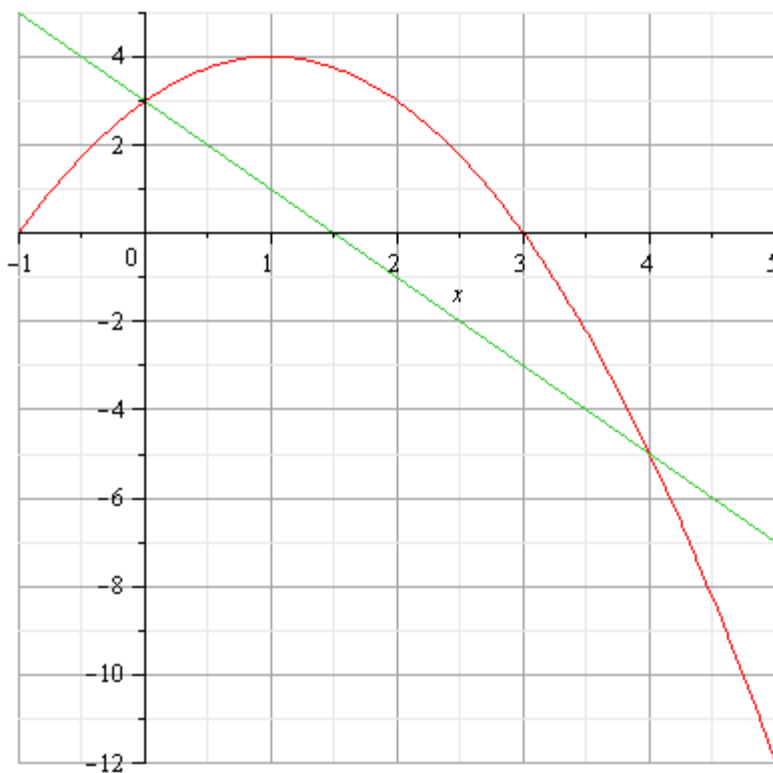
3. $f(-3) \cdot g(-1)$

4. $(f + g)(4)$

5. $\frac{f(3)}{g(-1)}$

6. $(g + f)(x)$

Consider the graph below where $g(x)$ is the linear function (green) and $f(x)$ is the other function (red). (see problems page 581 numbers 49 and 50)



Using this graph, find:

7. $(f + g)(3)$

8. $f(-g)(2)$

9. The x -values when $f = g$.

10. $(f \cdot g)(1)$

11. If profit whose symbol is $\$$ equals Revenue – Cost that is $\$ = R - C$, what is the definition of the break even point? (see page 611, Figure 9.1)

If the cost function is $C(x) = 15x + 1000$ and the revenue function is $R(x) = 20x$

12. What is the profit equation?

13. What is the value of $\$(300)$?

14. What is the numerical value of x at the break even point?

15. Graph the profit equation.

16. A toy company is willing to produce 100 yo-yo's at \$2 each and 500 at \$8 each. Research indicates that the public will buy 500 yo-yo's at \$1 each and 100 at \$9 each.

(see page 275, example 5)

a. Produce a supply and demand graph using these 4 data points.

b. What is the value of x where supply will equal demand, the equilibrium point?