

Section 5.6: The Area Between Two Curves (Minimum Homework: 1 – 19 odds)

#1 – 10:

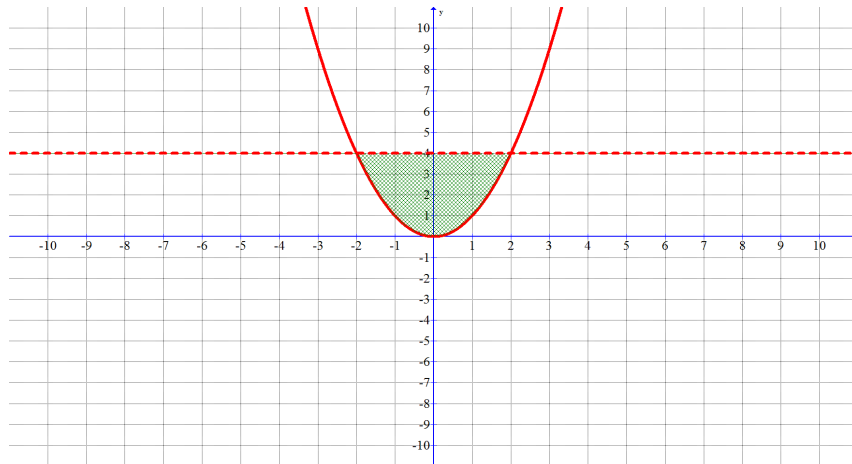
a) Create the integral needed to find the shaded area

b) Find the shaded area. Round to 2 decimals as needed. (you may use your calculator to determine the area)

1)

The function whose graph is represented by the dashed is $f(x) = 4$

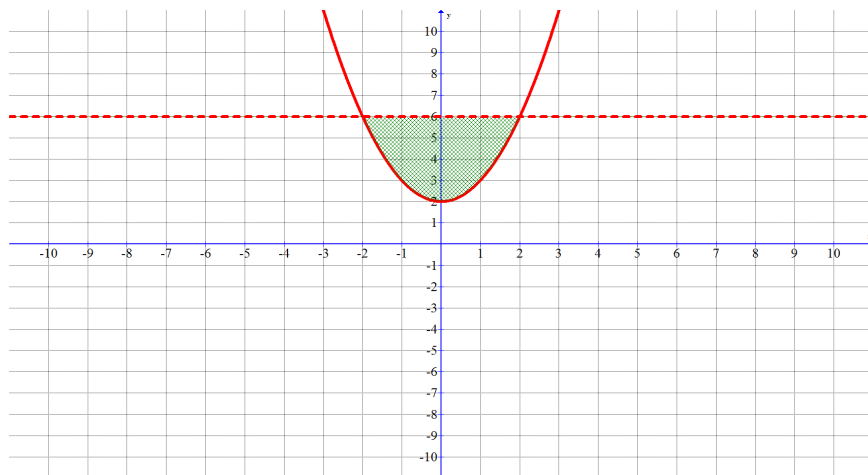
The function whose graph is represented by the solid line is $g(x) = x^2$



2)

The function whose graph is represented by the dashed is $f(x) = 6$

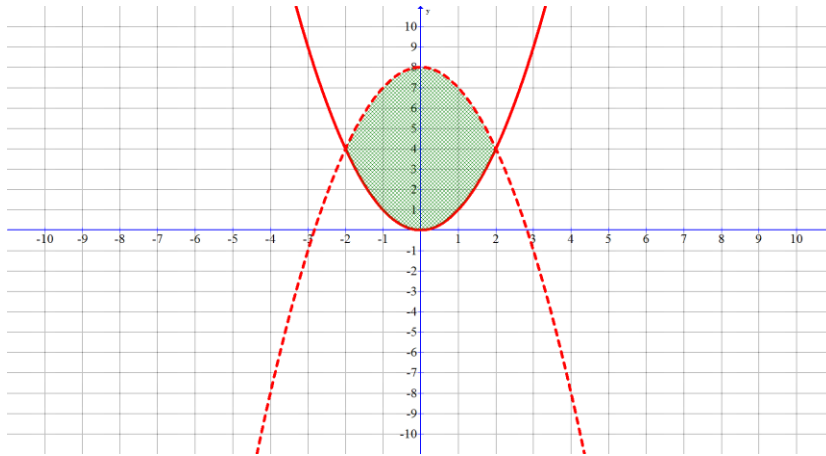
The function whose graph is represented by the solid line is $g(x) = x^2 + 2$



3)

The function whose graph is represented by the dashed is $f(x) = -x^2 + 8$

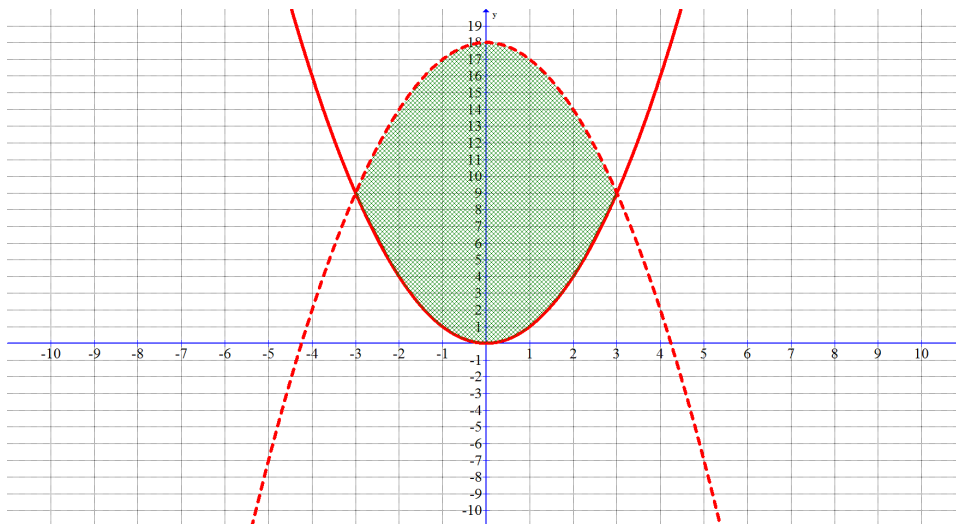
The function whose graph is represented by the solid line is $g(x) = x^2$



4)

The function whose graph is represented by the dashed is $f(x) = -x^2 + 18$

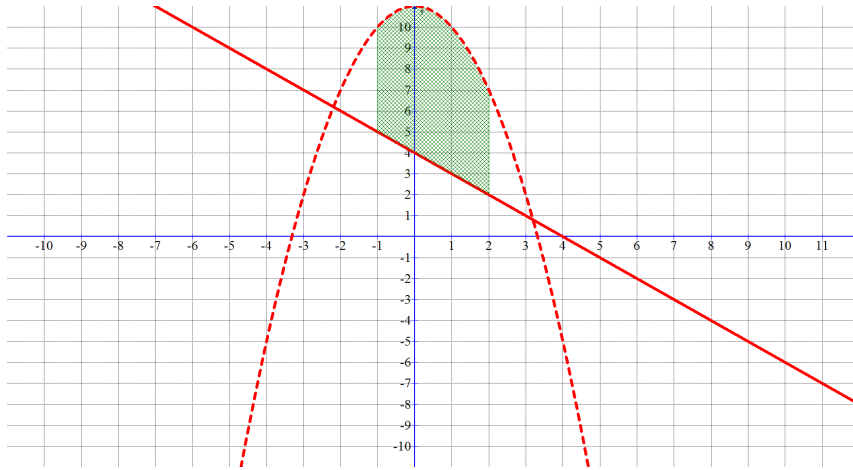
The function whose graph is represented by the solid line is $g(x) = x^2$



5)

The function whose graph is represented by the dashed is $f(x) = -x^2 + 11$

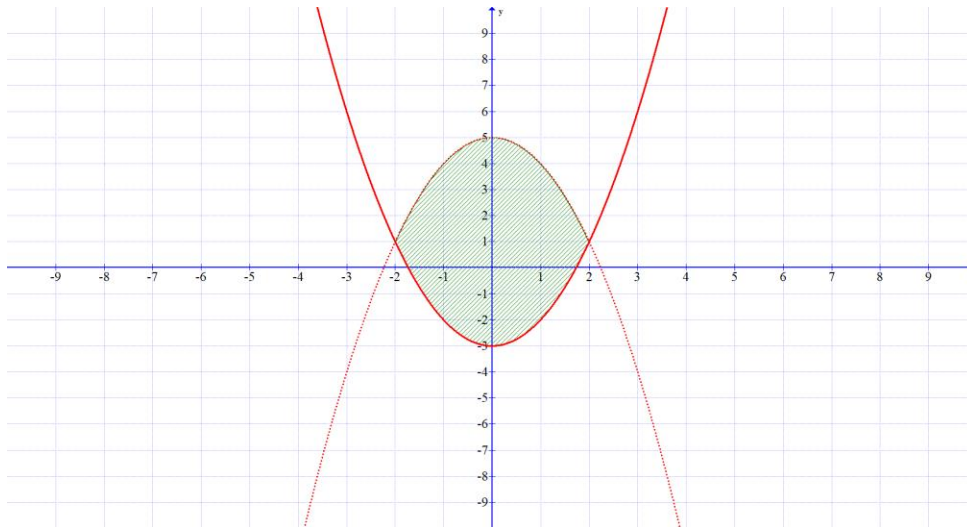
The function whose graph is represented by the solid line is $g(x) = -x + 4$



6)

The function whose graph is represented by the dashed is $f(x) = -x^2 + 5$

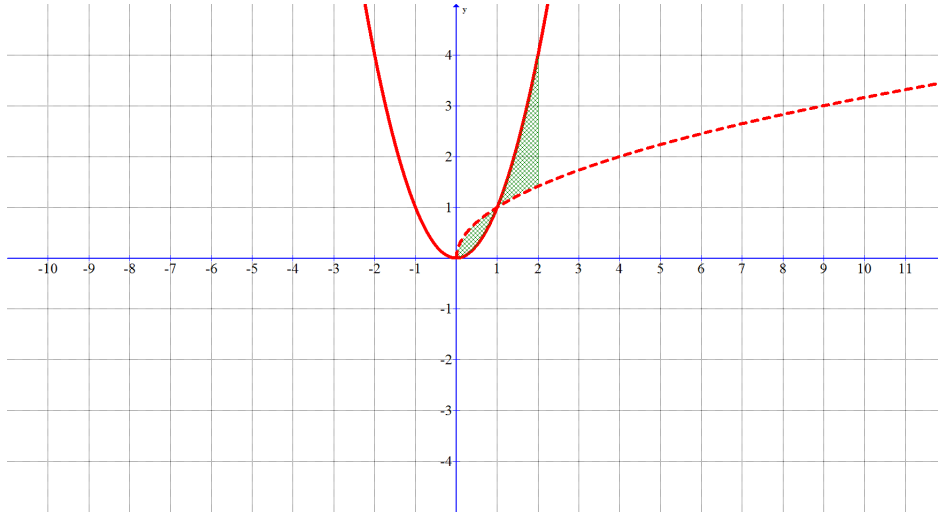
The function whose graph is represented by the solid line is $g(x) = x^2 - 3$



7)

The function whose graph is represented by the dashed is $f(x) = \sqrt{x}$

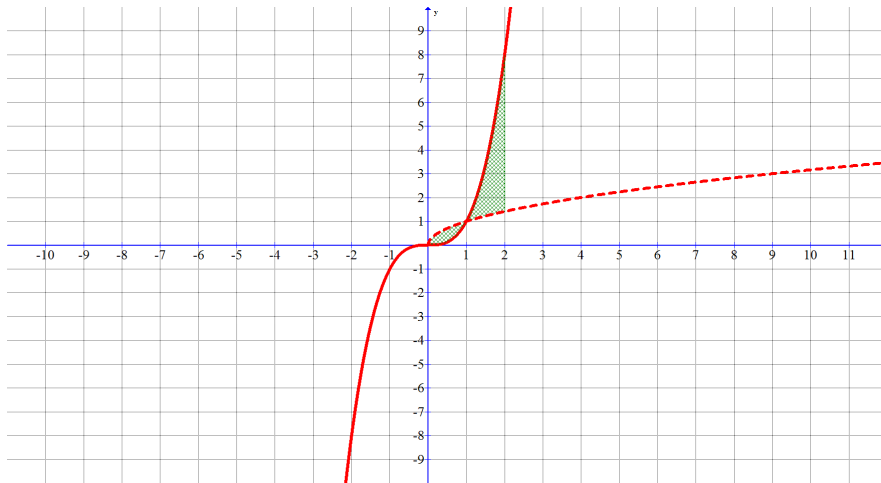
The function whose graph is represented by the solid line is $g(x) = x^2$



8)

The function whose graph is represented by the dashed is $f(x) = \sqrt{x}$

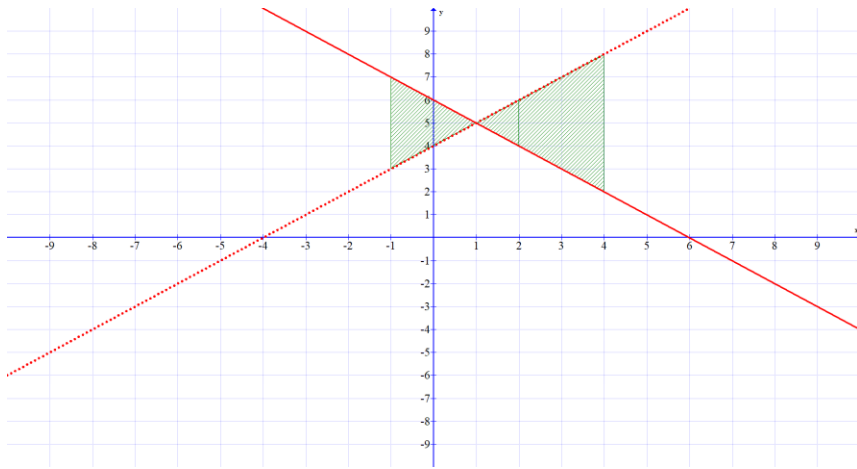
The function whose graph is represented by the solid line is $g(x) = x^3$



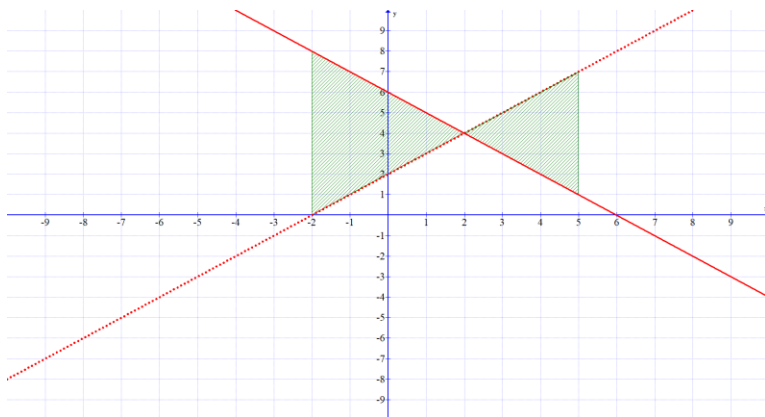
9)

The function whose graph is represented by the dashed is $f(x) = x + 4$

The function whose graph is represented by the solid line is $g(x) = 6 - x$



10)



The function whose graph is represented by the dashed is $f(x) = x + 2$

The function whose graph is represented by the solid line is $g(x) = 6 - x$

10) Answer: $area = 16 + 9 = 25$

#11-16:

- a) Use a calculator to sketch a graph of both functions. (You do not need to copy the graph on paper)
- b) Determine the function that is the "top" function.
- c) Create the integral needed to find the area between the curves.
- d) Find the area between the graphs over the given interval $[a,b]$
(You may use your calculator to compute the desired area.)

11) $f(x) = x + 1$ and $g(x) = 7 - x$ on $[0,3]$.

12) $f(x) = x - 3$ and $g(x) = -x + 7$ on $[2,5]$.

13) $f(x) = 4x + 16$ and $g(x) = 2x^2 + 10$ on $[-1,3]$.

14) $f(x) = 2x + 9$ and $g(x) = x^2 + 1$ on $[1,4]$.

15) $f(x) = x^2 + 6$ and $g(x) = x + 8$ on $[-1,2]$.

16) $f(x) = x^2 + 3x$ and $g(x) = 2x + 6$ on $[-3,2]$.