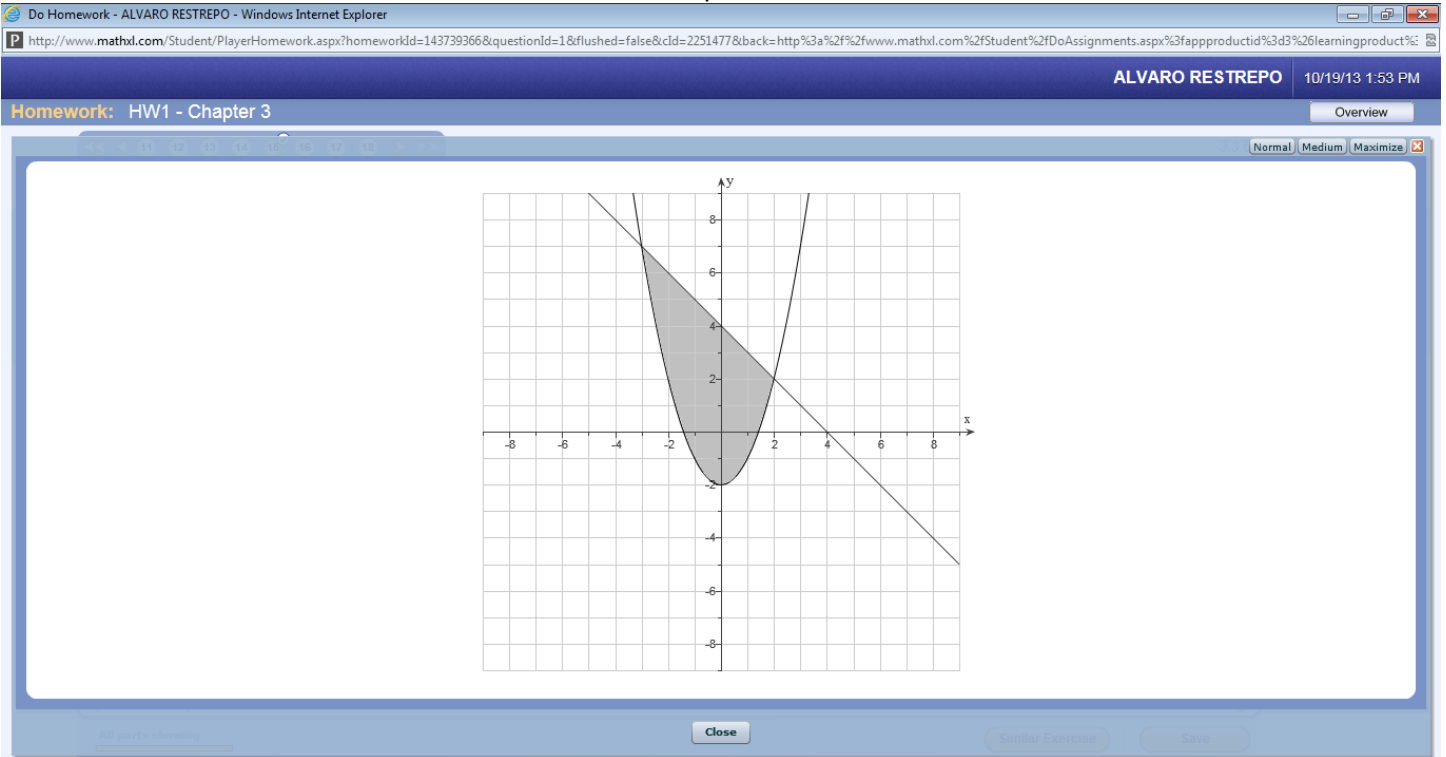


Chapter 3



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ALVARO RESTREPO 10/19/13 1:52 PM

Homework: HW1 - Chapter 3 Overview


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
Ex. Score: 1 of 1 pt HW Score: 5.56% (1 of 18 pts) 1 of 18 complete


For the functions $f(x) = -x + 4$ and $g(x) = x^2 - 2$,


- Graph f and g on the same Cartesian plane, and shade the region for which $f(x) > g(x)$, that is, the region below f and above g .
- Solve $f(x) = g(x)$.
- Use the result of part B to label the points of intersection of the graphs of f and g .

A. Choose the correct graph below.

A. 

B. 

C. 

D. 

B. The solutions to $f(x) = g(x)$ are $x = -3, 2$.
(Use a comma to separate answers as needed.)

C. The points of intersection are $(-3, 7)$ and $(2, 2)$.

Question is complete.

All parts showing

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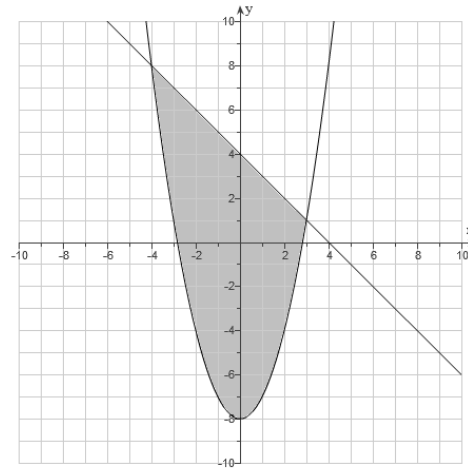
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Homework: HW1 - Chapter 3

Overview

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Homework: HW1 - Chapter 3

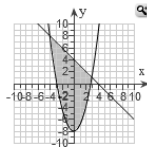
Overview

View an Example

For the functions $f(x) = -x + 4$ and $g(x) = x^2 - 8$,

- A. Graph f and g on the same Cartesian plane, and shade the region for which $f(x) > g(x)$, that is, the region below f and above g .
- B. Solve $f(x) = g(x)$.
- C. Use the result of part B to label the points of intersection of the graphs of f and g .

A. The graph of $f(x) = -x + 4$ is a line with the slope $m = -1$ and y -intercept $(0, 4)$. The graph of $g(x) = x^2 - 8$ is a parabola. It is the graph of $y = x^2$ shifted down 8 units. Graph f and g on the same Cartesian plane and shade the region below f and above g . The correct graph is shown on the right.



B. Set $f(x) = g(x)$ and solve the resulting equation for x .

$$\begin{aligned} -x + 4 &= x^2 - 8 \\ x^2 + x - 12 &= 0 \\ (x + 4)(x - 3) &= 0 \end{aligned}$$

Setting each factor equal to 0 separately and solving for x yields the solutions $x = -4$ and $x = 3$.

Question is complete.

All parts showing

Close

Homework: HW1 - Chapter 3

Overview

View an Example

For the functions $f(x) = -x + 4$ and $g(x) = x^2 - 8$,

- A. Graph f and g on the same Cartesian plane, and shade the region for which $f(x) > g(x)$, that is, the region below f and above g .
- B. Solve $f(x) = g(x)$.
- C. Use the result of part B to label the points of intersection of the graphs of f and g .

C. The x -coordinates for the points of intersection were found in part B. To find the y -coordinates, substitute each of the x -coordinates back into one of the given functions, f or g , and simplify. We will use the linear function. First, substitute $x = -4$.

$$\begin{aligned} f(x) &= -x + 4 \\ f(-4) &= -(-4) + 4 \\ &= 8 \end{aligned}$$

Therefore, the first point of intersection is $(-4, 8)$.

Next, substitute $x = 3$ into the linear function and simplify.

$$\begin{aligned} f(x) &= -x + 4 \\ f(3) &= -(3) + 4 \\ &= 1 \end{aligned}$$

Therefore, the second point of intersection is $(3, 1)$.

Question is complete.

All parts showing

Close