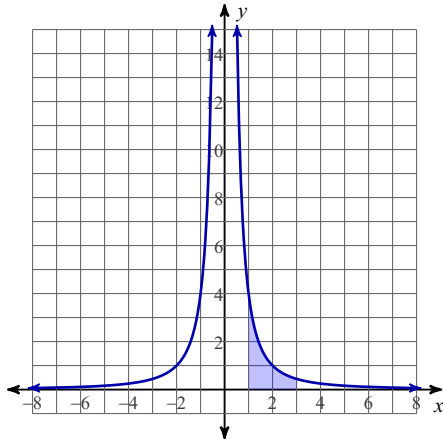


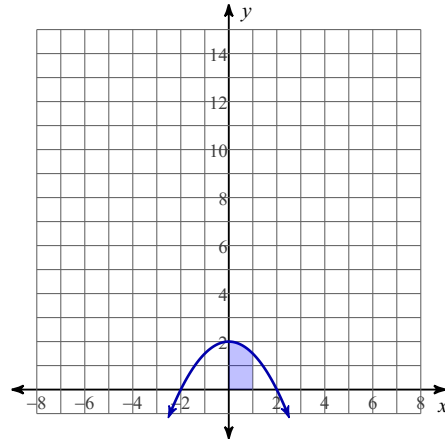
Worksheet 14 - Area Between Two Curves

For each problem, find the area under the curve over the given interval.

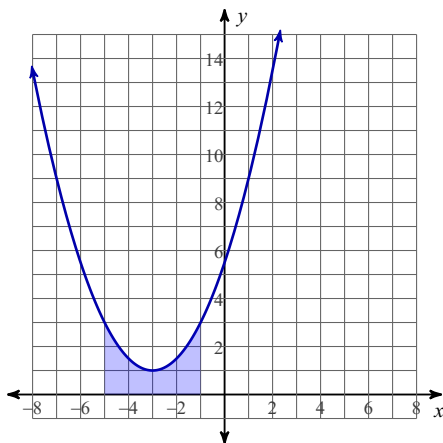
1) $y = \frac{4}{x^2}$; [1, 3]



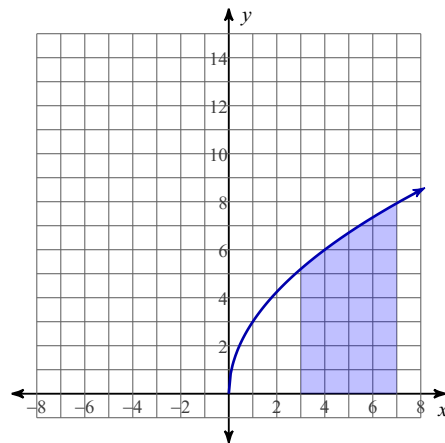
2) $y = -\frac{x^2}{2} + 2$; [0, 1]



3) $y = \frac{x^2}{2} + 3x + \frac{11}{2}$; [-5, -1]

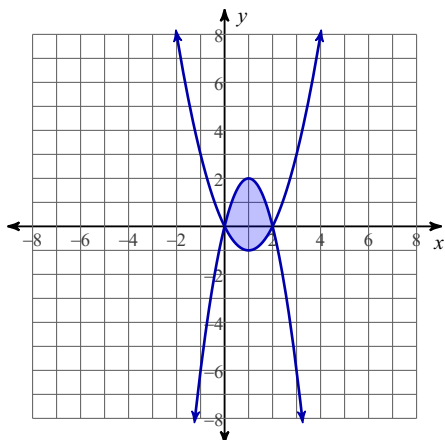


4) $y = 3\sqrt{x}$; [3, 7]

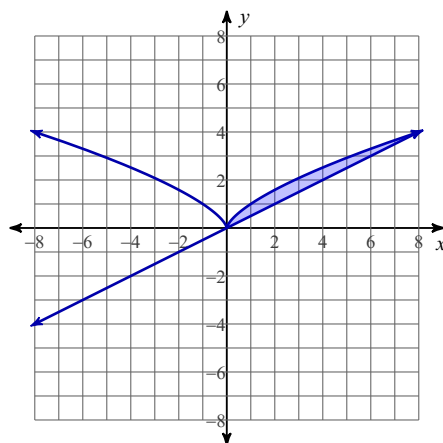


For each problem, find the area of the region enclosed by the curves.

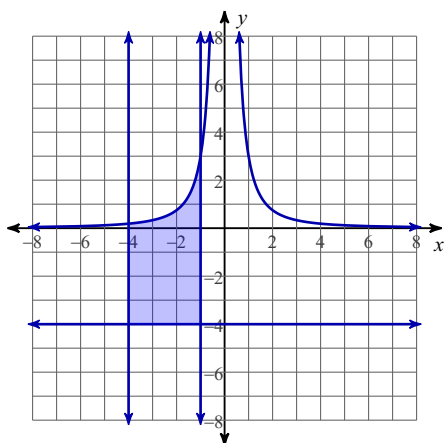
5) $y = -2x^2 + 4x$, $y = x^2 - 2x$



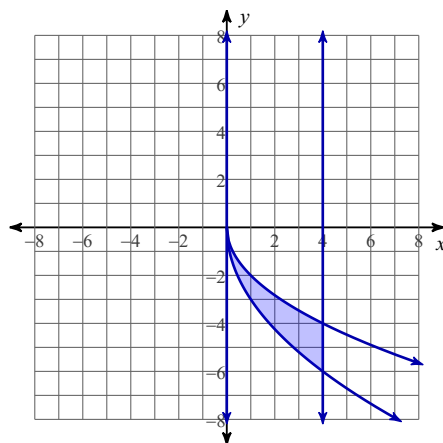
6) $y = \sqrt[3]{x^2}$, $y = \frac{1}{2}x$



7) $y = \frac{3}{x^2}$, $y = -4$,
 $x = -4$, $x = -1$

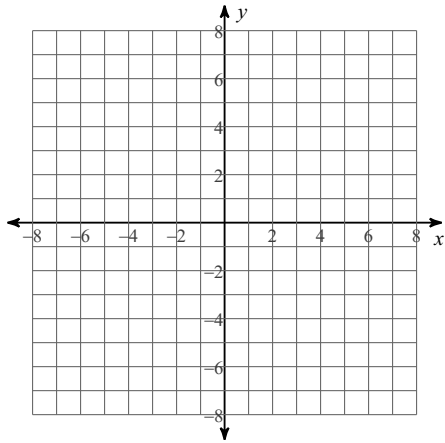


8) $y = -3\sqrt{x}$, $y = -2\sqrt{x}$,
 $x = 0$, $x = 4$

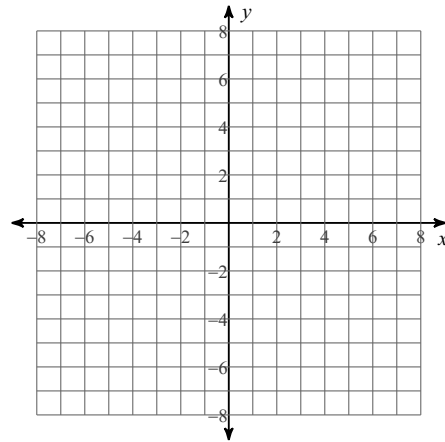


For each problem, find the area of the region enclosed by the curves. You may use the provided graph to sketch the curves and shade the enclosed region.

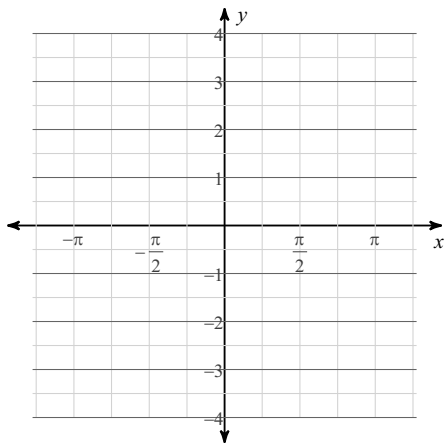
9) $y = -x^2 + 8x - 13$, $y = 2x + 1$,
 $x = 1$, $x = 3$



10) $y = 2x^2 - 4x + 4$, $y = 4$



11) $y = 2\cos x$, $y = -2\cos x$,
 $x = -\frac{\pi}{3}$, $x = \frac{\pi}{2}$



12) $y = 3\sqrt{x}$, $y = -3\sqrt{x}$,
 $x = 0$, $x = 4$

