

Area between two curves

Date _____ Period _____

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

1) $y = \frac{x^2}{2} + 3x + \frac{13}{2}$, $y = x$,
 $x = -4$, $x = -1$

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

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

4) $y = \frac{4}{x^2}$, $y = 4$,
 $x = 2$, $x = 5$

5) $y = -2x^2 - 8x - 2$, $y = -x^2 - 2x + 3$,
 $x = -4$, $x = 0$

6) $y = \frac{x^2}{2} - 4x + 9$, $y = -\frac{x^2}{2} + 2x + 4$,
 $x = 2$, $x = 7$

7) $y = \frac{x^2}{2} + 4x + 6$, $y = -\frac{x^2}{2} - 4x - 6$,
 $x = -4$, $x = -1$

8) $y = x^3 + x^2 - 4x$, $y = 2x$

9) $y = -\frac{x^3}{2} + 3x$, $y = -\frac{x^2}{2}$

10) $y = -\frac{x^3}{2} - \frac{x^2}{2} + 3x$, $y = 0$