

Please show **all** your work! Answers without supporting work will not be given credit.  
Write answers in spaces provided.

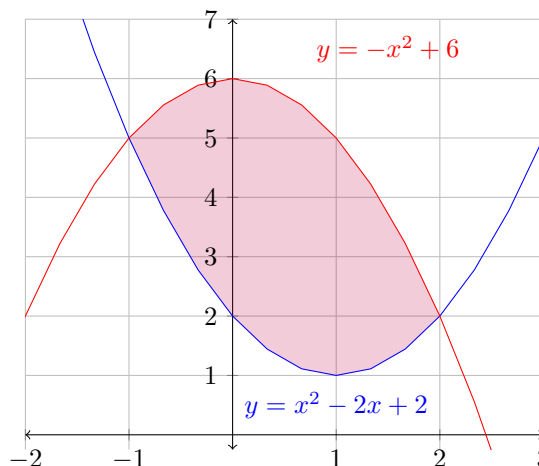
## Solutions

Name: \_\_\_\_\_

1. Set up the integral that computes the **AREA** shown to the right with respect to  $x$ .

**DON'T COMPUTE IT!!!**

⇒ dx problem  
⇒ Top-Bottom



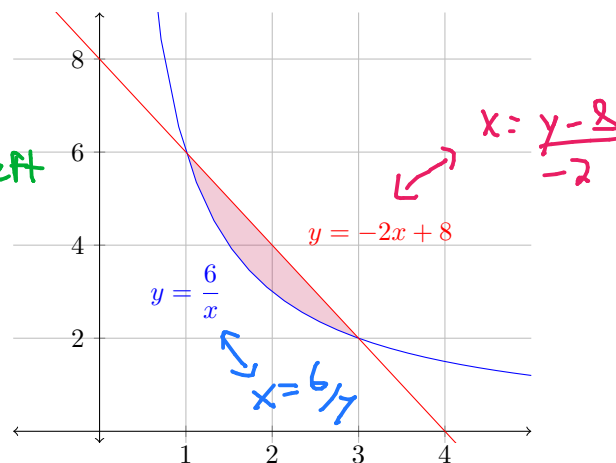
Area  $\int_{-1}^2 (-x^2 + 6) - (x^2 - 2x + 2) dx$

2. Set up the integral that computes the **AREA** shown to the right with respect to  $y$ .

**DON'T COMPUTE IT!!!**

⇒ dy problem  
⇒ Right-Left

dy problem ⇒  $x = ?$



Area =  $\int_2^6 \left( \frac{y-8}{-2} \right) - \frac{6}{y} dy$

$y = \frac{6}{x} \Leftrightarrow x = \frac{6}{y}$

$y = -2x + 8$

$y - 8 = -2x$

$\frac{y-8}{-2} = x$

Note the area of this graph can also be expressed as

$\int dx$

Check Quiz 4.