

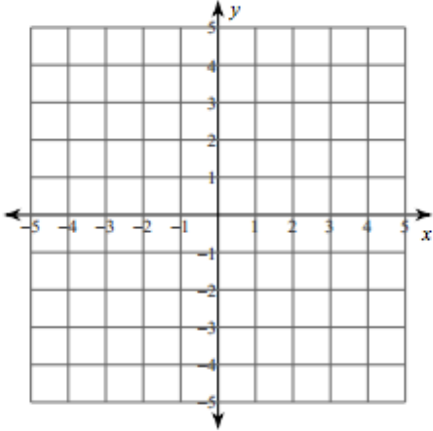
# Inequalities Study Guide

Name: \_\_\_\_\_ Pd \_\_\_\_\_ Date \_\_\_\_\_

Solve for  $x$  such that  $f(x) < g(x)$ . Be sure to write your answer in SET NOTATION

**Solve the inequality by GRAPHING.**

$$f(x) = \frac{1}{2}x + 1$$
$$g(x) = -2x - 4$$



**Word Problem**

Maxwell is the owner of a pet grooming business. He buys pet shampoo for \$3 a bottle plus a \$25 shipping fee. Recently he found that Amazon sold a similar shampoo for \$4 a bottle plus \$5 shipping. **For how many bottles,  $x$ , would it be cheaper for Maxwell to order from Amazon?**

**Solve the system ALGEBRAICALLY**

$$f(x) = \frac{1}{2}x + 1$$
$$g(x) = -2x - 4$$