

Section 2.5 Focus Exercises

1. Translate each of these sentences into algebra. For each, Let $x =$ the number of cars.

- a) Janet has owned more than 12 cars in her lifetime. _____
- b) There were at least 30 cars in the parking lot. _____
- c) There were no more than 6 cars parked in front of Joe's house. _____
- d) There were fewer than 10 cars following the wedding couple's limo. _____

2. Fill in the box with an inequality sign (either $<$ or $>$) that makes the statement true. (You may use the number line, above, to help you think about the answers.)

- a) $-9 \square 4$ b) $-8 \square -9$ c) $-7 \square 3$
- d) $-5 \square 99$ e) $-25 \square -4$ f) $4 \square -7$
- g) $2 \square -8$ h) $-5 \square -3$ i) $0 \square -6$

3. Graph each of these inequalities on the number line provided below each one. Be sure to include the variable and the infinities, along with the origin and the graph.

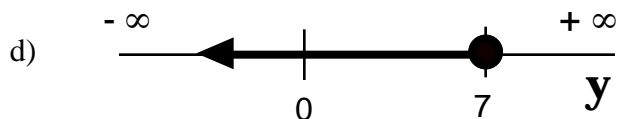
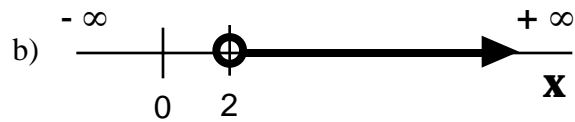
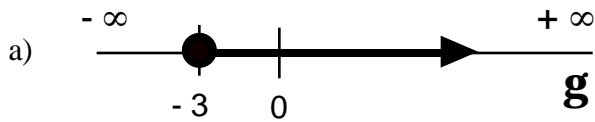
a) $x \leq 4$

b) $y < -1$

c) $p > -3$

d) $w \geq 0$

4. Given each graph, write an algebraic statement using one of the inequality symbols.



5. Below each given inequality, write an equivalent statement by “switching sides” *and* changing the “direction” of the inequality sign.

a) $-6 \geq y$

b) $-1 \leq r$

c) $0 < w$

d) $0 > h$

e) $4 < n$

f) $5 \geq x$

6. Decide whether the given values of x make the inequality statement true or false. **SHOW ALL WORK!**

Inequality: $4 - x \geq 3x - 8$

a) $x = 6$

b) $x = -2$

c) $x = 0$

d) $x = 4$

e) $x = -1$

f) $x = 3$