Example

Travel Suppose you fly from Miami, Florida, to San Francisco, California. It takes 6.5 hours to fly 2600 miles against a head wind. At the same time, your friend flies from San Francisco to Miami. Her plane travels at the same average airspeed, but her flight only takes 5.2 hours. Find the average airspeed of the planes. Find the average wind speed.

D=rt

A = airspeed

W= windspeed

2600=(a+w)6.5

2600=(a-w)5.2

400=a+w

500=a-w

2w=100   w=50

The average windspeed is 50mph

Exercise

1. Solve $2x - 8 > 4x + 2$.

    F. $x < -5$ **G.** $x > -5$ **H.** $x < 5$ **J.** $x > 5$

2. Solve $-5n + 16 \le -7n$.

    A. $n \le -8$ **B.** $n \ge -8$ **C.** $n \le 8$ **D.** $n \ge 8$

3. Great Gifts pays its supplier $65 for each box of 12 bells. The owner wants to determine the least amount x he can charge his customers per bell in order to make at least a 50% profit per box. Which inequality should he use?
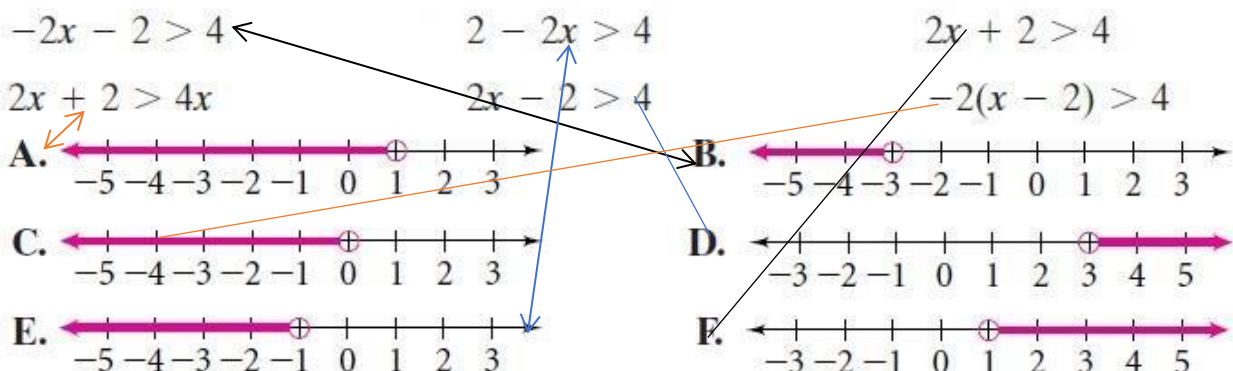
    F. $12x \ge 1.50(65)$ **G.** $65x \le 1.50(12)$

    H. $0.50(12x) \ge 65$ **J.** $0.50(12x) \le 65$

Match each inequality with its graph below.

$-2x - 2 > 4$ $2 - 2x > 4$ $2x + 2 > 4$

$2x + 2 > 4x$ $2x - 2 > 4$ $-2(x - 2) > 4$

A. (number line from −5 to 3, shaded left of open circle at 1)

B. (number line from −5 to 3, shaded left of open circle at −2)

C. (number line from −5 to 3, shaded left of open circle at 0)

D. (number line from −3 to 5, shaded right of open circle at 3)

E. (number line from −5 to 3, shaded left of open circle at −1)

F. (number line from −3 to 5, shaded right of open circle at 2)

Answer key: 1. F 2. A 3. F