

17 (a) Let  $x$  be width and  $y$  the height. The following linear system describes this situation.

$$x - y = 2 \Rightarrow y = x - 2$$

$$2x + 2y = 38 \Rightarrow x + y = 19 \Rightarrow y = 19 - x$$

Graph  $Y_1 = X - 2$  and  $Y_2 = 19 - X$ . Their graphs intersect at  $(10.5, 8.5)$  as shown in *Figure 17*. The screen is 10.5 inches wide and 8.5 inches high.

(b)  $x - y = 2$

$$2x + 2y = 38$$

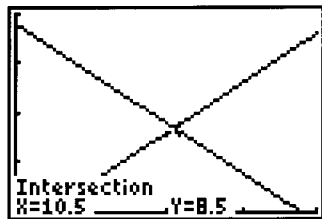
Multiply the second equation by  $\frac{1}{2}$  and add to eliminate the  $y$ -variable.

$$x - y = 2$$

$$\underline{x + y = 19}$$

$$2x = 21 \Rightarrow x = 10.5. \text{ Since } x - y = 2, y = 8.5.$$

$[0, 20, 5]$  by  $[0, 20, 5]$



*Figure 17*