

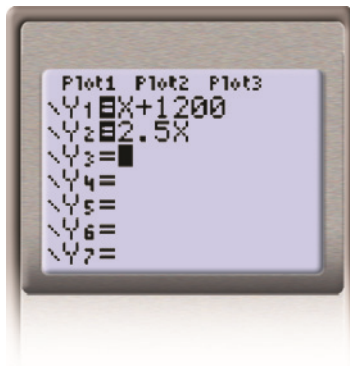
Module 7 Lesson 1

Try This 12 0 15 Possible Solutions

TT 12. The first equation indicates the cost of operating the hot dog stand. The cost in dollars, d , is given by \$1200 plus \$1 per hot dog, x . The second equation indicates the revenue generated from the sale of the hot dogs. The revenue in dollars, d , is \$2.50 per hot dog, x , that is sold.

TT 13. The point of intersection is (800, 2000). The equations can be solved using a graphing calculator.

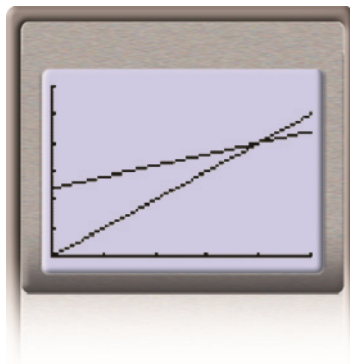
Step 1: Enter the equations into the calculator.



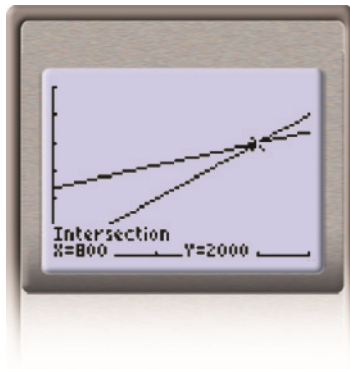
Step 2: Set the window. The student may need to experiment with the window settings before he or she can find one that shows the point of intersection. The following one could be used.



Step 3: Graph the equations.



Step 4: Find the point of intersection.



TT 14. Kendra needs to sell 800 hot dogs in order to break even. At that point, she will have spent \$2000. She will also have collected \$2000 in hot dog sales.

TT 15. If Kendra sells 940 hot dogs, she will have sold more than 800 hot dogs (the break-even point); so she will realize a profit. To determine the profit, the difference between the cost, C , and the revenue, R , of 940 hot dogs can be evaluated. The following is a sample response:

$$C = x + 1200$$

$$R = 2.5x$$

$$C = 940 + 1200$$

$$R = 2.5(940)$$

$$C = \$2140$$

$$R = \$2350$$

The profit is $\$2350 - \$2140 = \$210$.

