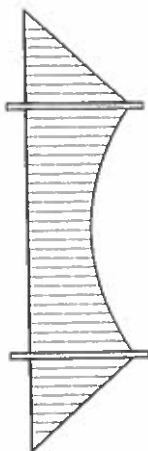




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7. A roadway on a bridge is supported by two towers with a cable that joins them.



equation  $y = 0.00036x^2 + 4.4$ .

- c) Identify the  $y$ - and  $x$ -intercepts.

#### 8.4.4 Solve Problems Involving Quadratic Relations

8. The cost (in thousands of dollars) to produce items in a computer component manufacturing plant is given by the relation  $C = 2x^2 - 29x + 100$ , where  $x$  represents the number of hundreds of items produced. The revenue these items produce (in thousands of dollars) is given by the relation  $R = x^2 - 10x + 250$ , where  $x$  represents the number of hundreds of items sold.
- a) Profit is defined as the difference between the revenue and the cost. Using  $P = R - C$ , as well as the two relations above, develop a profit relation for the company.

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**b) Complete the table of values.**

<b>Ticket price (\$)</b>	20	22						
<b>Tickets sold (n)</b>	1200							
<b>Revenue (\$)</b>	24 000							

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