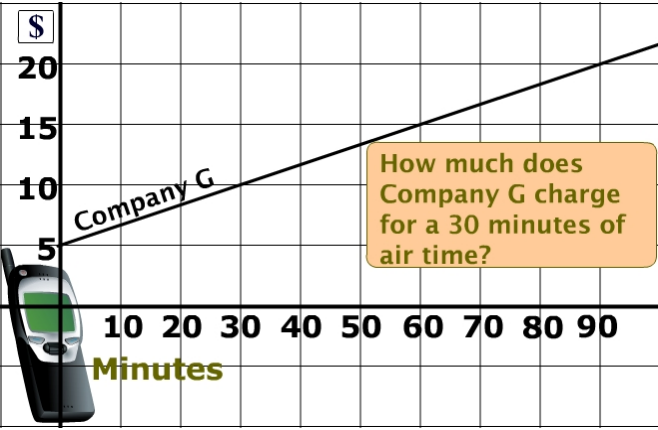
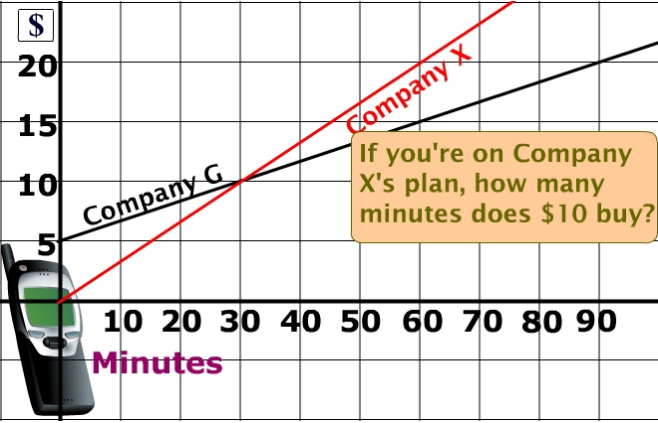
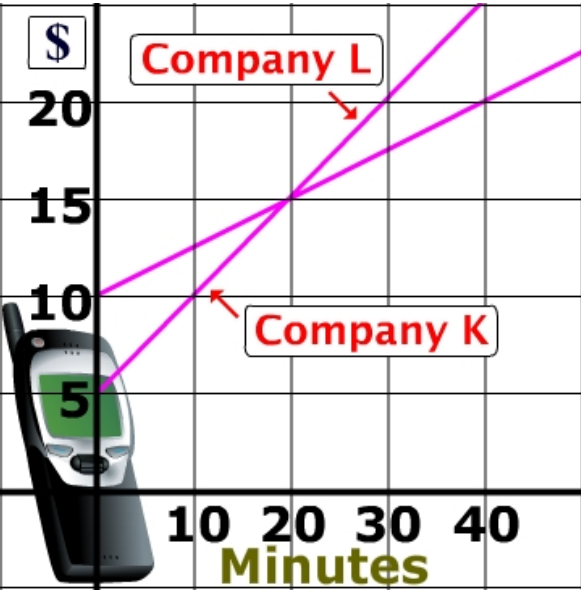


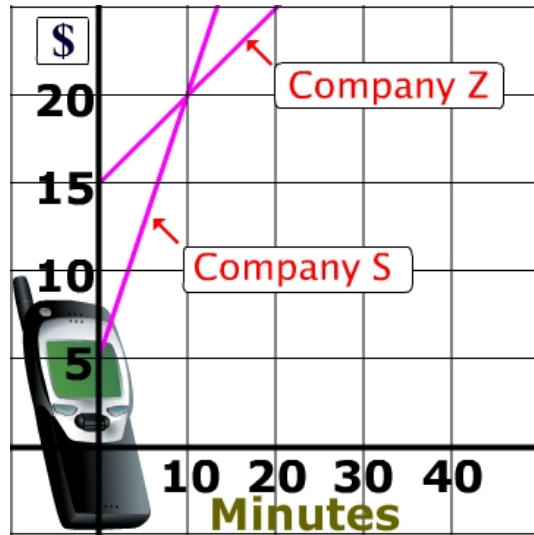
# Systems of Linear Equations: Real World Applications

Worksheet based on interactive lesson @

[mathwarehouse.com/algebra/linear\\_equations/systems-of-equations/real-world-applications.html](http://mathwarehouse.com/algebra/linear_equations/systems-of-equations/real-world-applications.html)

<p>Warm up</p> <ol style="list-style-type: none"> <li>How much does Cell Phone Company G charge for 30 minutes of usage?</li> <li>How much does Company G charge at 0 minutes?</li> </ol>	 <p>The graph shows a coordinate plane with the vertical axis labeled '\$' ranging from 0 to 20 in increments of 5, and the horizontal axis labeled 'Minutes' ranging from 0 to 90 in increments of 10. A black line labeled 'Company G' starts at the y-axis at (0, 5) and passes through the point (30, 10). A callout box asks: 'How much does Company G charge for a 30 minutes of air time?' A small mobile phone icon is shown at the bottom left of the graph.</p>
<ol style="list-style-type: none"> <li>If you're on Company X's plan, how many minutes does \$10 buy?</li> <li>How much does Company G charge at 0 minutes?</li> </ol>	 <p>The graph shows a coordinate plane with the vertical axis labeled '\$' ranging from 0 to 20 in increments of 5, and the horizontal axis labeled 'Minutes' ranging from 0 to 90 in increments of 10. A black line labeled 'Company G' starts at (0, 5) and passes through (30, 10). A red line labeled 'Company X' starts at (0, 0) and passes through (30, 10). A callout box asks: 'If you're on Company X's plan, how many minutes does \$10 buy?' A small mobile phone icon is shown at the bottom left of the graph.</p>
<ol style="list-style-type: none"> <li>At how many minutes do both companies charge the same amount?</li> <li>What is the solution to this system of linear equations?</li> </ol>	 <p>The graph shows a coordinate plane with the vertical axis labeled '\$' ranging from 0 to 20 in increments of 5, and the horizontal axis labeled 'Minutes' ranging from 0 to 40 in increments of 10. A purple line labeled 'Company L' starts at (0, 10) and passes through (20, 15). A pink line labeled 'Company K' starts at (0, 5) and passes through (20, 15). The two lines intersect at the point (20, 15). A small mobile phone icon is shown at the bottom left of the graph.</p>

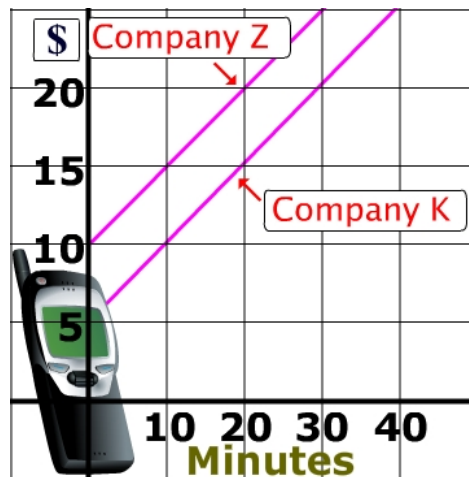
7. Cell phone company S charges a \$5 flat fee plus a regular rate of \$15 for every 10 minutes. Company Z charges a \$15 initial, flat-fee and has a rate of \$5 for every 10 minutes? At how many minutes, do these two companies charge the same amount?



8. At how many minutes do both companies charge the same amount?

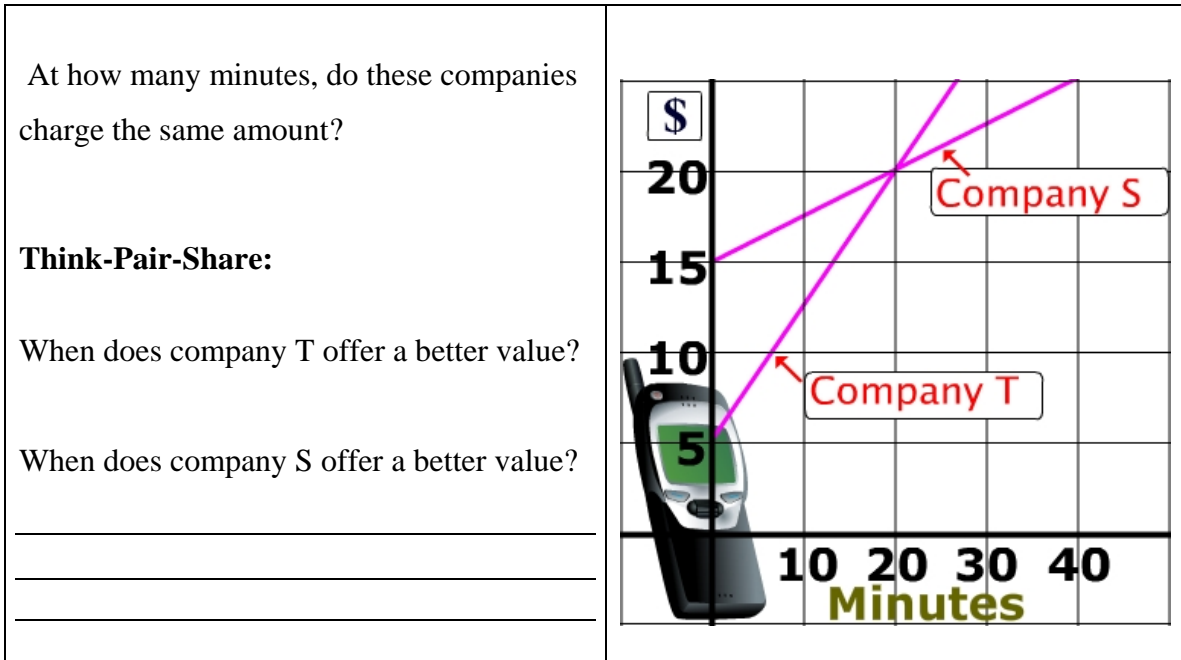
9. What is the solution to this system of linear equations?

10. If a new company (company L) opened up and charged \$15 initial, flat fee plus \$5 for every 20 minutes, at how many minutes would this new company's fee equal Company Z's fee?



# Activity

The table below represents the monthly rate of two cell-phone companies.



If you chose a plan for yourself, which one would you use and why?

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**TEACHERS:** Feel free to make copies of this worksheet for the sole purpose of classroom use. Enjoy!!!

