


# Lesson 8 Problem-Solving Practice

## Factor Linear Expressions

<p><b>1. MEASUREMENT</b> A sidewalk has an area that can be represented by the expression <math>(8x + 24)</math> feet. Factor the expression <math>8x + 24</math>.</p>	<p><b>2. RENTAL</b> The cost of renting a speedboat can be represented by the expression <math>50x + 250</math>, where <math>x</math> is the number of hours it is rented. Factor the expression <math>50x + 250</math>.</p>
<p><b>3. GEOMETRY</b> The rectangle shown below has an area of <math>(28x + 49)</math> inches. Factor the expression <math>28x + 49</math>.</p> 	<p><b>4. CONCERT</b> Four friends went to a concert and paid \$12 total for parking and \$<math>x</math> per ticket. The expression <math>\\$4x + \\$12</math> represents the total cost paid of all four friends. Factor <math>4x + 12</math>.</p>
<p><b>5. FINANCIAL LITERACY</b> Marisa has \$40 in her savings account and plans to save \$<math>x</math> each month for 5 months. The expression <math>\\$5x + \\$40</math> represents the total amount in the account after 5 months. Factor the expression <math>5x + 40</math>.</p>	<p><b>6. FRAMING</b> A square picture frame has a perimeter of <math>(20x + 32)</math> inches. What is the length of one side of the picture frame?</p>