



## Practice – 3

Once you feel confident with adding and subtracting rational expressions, complete problems 1 to 3. Check your answers by going to the Solutions tab in Moodle.

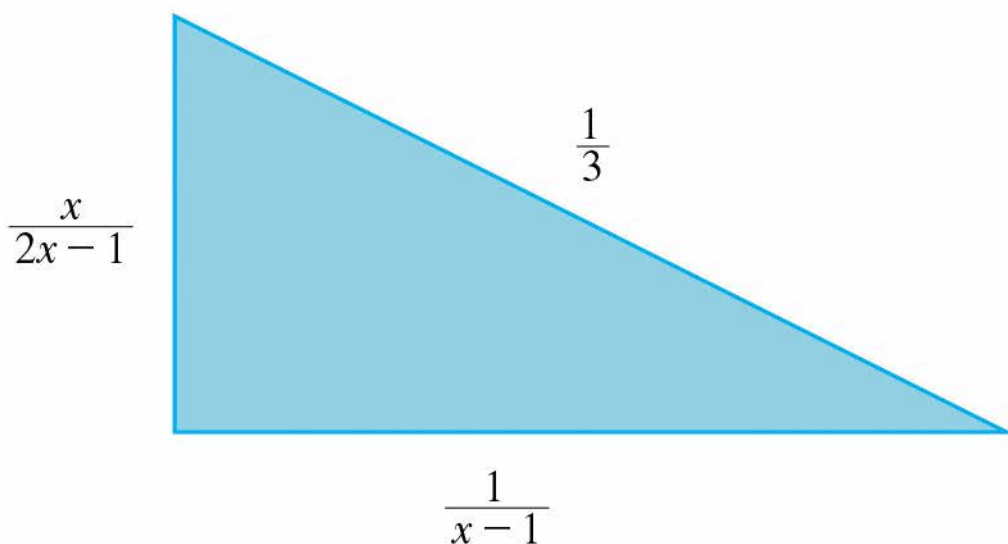
**Instructions:** Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Simplify the following rational expressions. Identify any non-permissible values.

a.  $\frac{x-4}{x} + \frac{-3}{x+1}$

b.  $\frac{x-1}{x^2+7x+12} - \frac{x+2}{x^2-2x-15}$

2. Determine the perimeter and area of the triangle shown.



3. A student performed the following addition of two rational expressions. During her addition, she made two errors, which resulted in an incorrect simplification of the expressions. Identify the errors and correct the simplification.

$$\begin{aligned} \frac{x^2-1}{x+1} + \frac{2}{x^2} &= \frac{(x^2-1)+2}{x^2+x+1} \\ &= \frac{\cancel{x^2} + \cancel{1}}{\cancel{x^2} + x + \cancel{1}} \\ &= \frac{1}{x}, x \neq 0 \end{aligned}$$