

SM3 4.3: Adding & Subtracting Rationals

For problems 1-7, simplify each rational expression. State any restrictions on x .

1) $\frac{3}{x} + \frac{7}{5x}$

2) $\frac{11}{x} - \frac{x}{x-1}$

3) $\frac{x^2+3}{8} - \frac{4}{x}$

4) $\frac{x+1}{5} + \frac{1}{x}$

5) $\frac{9x}{x+1} + 5x$

6) $\frac{5x}{x+1} + \frac{3x+1}{x^2-x-2}$

7) $\frac{8x+1}{6x^2-7x-3} - \frac{4}{3x+1} + \frac{11x}{2x-3}$

- 8) Sam walks $\frac{3}{8}$ km to school. After school, he walks another $\frac{x+1}{3}$ km to get to work. What simplified rational expression describes the total length of both of his walks?
- 9) Emma's strawberry farm has a total of $5x$ hectares of arable land. This past season, Emma planted $\frac{x^2+3}{x+7}$ hectares of strawberries. What simplified rational expression represents the total amount of land, in hectares, that was **not** planted last season?
- 10) The width of a rectangle is $\frac{x+2}{5}$ cm. The rectangle's length is $\frac{x^2+3x+2}{x+3}$ cm. What expression represents the perimeter of this rectangle?