

- If you have any difficulty with these solutions, please contact your teacher before continuing.

Page 254, *Your Turn* (First Choice)

There are no variables in the denominators. Therefore, there are no non-permissible values.

$$\frac{x}{2} - \frac{2x + 5}{4} = \frac{4}{3}$$

$$\left[ \left( \frac{x}{2} \right) (12) \right] - \left[ \left( \frac{2x + 5}{4} \right) (12) \right] = \left[ \left( \frac{4}{3} \right) (12) \right] \quad \checkmark$$

$$\left[ \left( \frac{x}{\cancel{2}} \right) (\cancel{12})^6 \right] - \left[ \left( \frac{2x + 5}{\cancel{4}} \right) (\cancel{12})^3 \right] = \left[ \left( \frac{4}{\cancel{3}} \right) (\cancel{12})^4 \right] \quad \checkmark$$

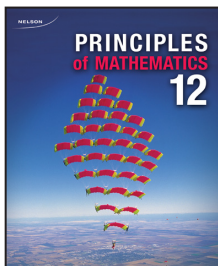
$$[(x)(6)] - [(2x + 5)(3)] = [(4)(4)] \quad \checkmark$$

$$6x - (6x + 15) = 16$$

$$6x - 6x - 15 = 16 \quad \checkmark$$

$$-15 = 16$$

Because you eliminate all the  $x$ -values, there is no solution.  



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Page 254, *Your Turn* (Second Choice)

The non-permissible values are  $a \neq 2, -2$ .

$$\frac{2}{a+2} - \frac{a^2+4}{a^2-4} = \frac{a}{2-a}$$

$$\left[ \frac{2}{a+2} \right] - \left[ \frac{a^2+4}{(a-2)(a+2)} \right] = \left[ \frac{a}{2-a} \right]$$

$$\left[ \left( \frac{2}{a+2} \right) (a-2)(a+2) \right] - \left[ \frac{(a^2+4)}{(a-2)(a+2)} (a-2)(a+2) \right] = \left[ \left( \frac{a}{2-a} \right) (a-2)(a+2) \right]$$

$$\left[ \left( \frac{2}{\cancel{a+2}} \right) (a-2)(\cancel{a+2}) \right] - \left[ \frac{(a^2+4)}{(\cancel{a-2})(\cancel{a+2})} (\cancel{a-2})(\cancel{a+2}) \right] = \left[ \left( \frac{a}{\cancel{2-a}} \right) (\cancel{a-2})^{-1} (a+2) \right] \quad \checkmark$$

$$[2(a-2)] - [(a^2+4)] = [(a)(-1)(a+2)]$$

$$2a - 4 - (a^2 + 4) = -a^2 - 2a$$

$$2a - 4 - a^2 - 4 = -a^2 - 2a \quad \checkmark$$

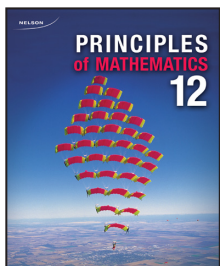
$$2a - a^2 - 8 = -a^2 - 2a$$

$$4a - 8 = 0$$

$$4a = 8$$

$$a = 2 \quad \checkmark \quad a \neq 2, -2 \quad \checkmark$$

The solution  $a = 2$  is extraneous because 2 is a non-permissible value.   
 Therefore, there is no solution. ✓



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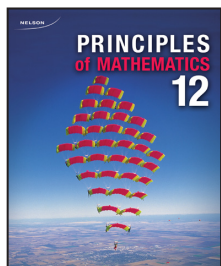
Verify  $y = 91$ .

Left Side	Right Side
$\frac{1}{y} + \frac{1}{y-13}$	$\frac{1}{42}$
$\frac{1}{91} + \frac{1}{91-13}$	
$\frac{1}{91} + \frac{1}{78}$	
$\frac{78+91}{7098}$	
$\frac{169}{7098}$	
$\frac{1}{42}$	



When the solution  $y = 91$  is substituted into the original equation, the left side equals the right side. Therefore, the solution  $y = 91$  is verified to be correct.





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- Verify  $x = 2$ .

Left Side	Right Side
$\frac{3x - 8}{2x - 1}$	$\frac{x - 4}{x + 1}$
$\frac{3(2) - 8}{2(2) - 1}$	$\frac{2 - 4}{2 + 1}$
$\frac{6 - 8}{4 - 1}$	$\frac{-2}{3}$
$\frac{-2}{3}$	

When the solution  $x = 2$  is substituted into the original equation, the left side equals the right side. The solution  $x = 2$  is verified to be correct. ✓

- There are no inadmissible values for this rational equation because inadmissible values come from the context of a word problem. This question is not a word problem; therefore, it cannot have inadmissible values. ✓