***Solution Section* 1.1 - Linear Equations and Rational Equations**

***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***







***No solution***

***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***















***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***













***Exercise***

Solve: 

***Solution***

 ***Distribute the minus***

 ***Distribute the plus***

 ***Distribute the minus***





 ***Divide by −*6**





***Exercise***

Solve: 

***Solution***









***No Solution***

***Exercise***

Solve: 

***Solution***













***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***







 (***False***)

***Solution***: **{∅}**

***Exercise***

Solve: 

***Solution***







***No Solution***

***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***











***Solution***: 

***Exercise***

Solve: 

***Solution***













***Exercise***

Solve: 

***Solution***













***Or***











***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***















***Exercise***

Solve: 

***Solution***













***Exercise***

Solve: 

***Solution***

 

7(***x*** – 3) = 2(5) – 4(***x*** + 5)

7***x*** – 21 = 10 – 4***x*** – 20

7***x*** + 4***x*** = 21 – 10

11***x*** = 11



***Exercise***

Solve: 

***Solution***













***Exercise***

Solve 

***Solution***

 ***LCD:* 2, 3: 6**











***Exercise***

Solve: 

***Solution***

***Restriction: x* ≠ 0**

 













***Exercise***

Solve: 

***Solution***

***Restrictions***: *x* ≠ ± 4



***x***– 4 +***x*** + 4 = 22

2***x*** = 22



***Exercise***

Solve: 

***Solution***

***Condition (Restriction):*** 













***Exercise***

Solve: 

***Solution***

*Restriction:* 









⇒ No *Solution* or {∅} because of the restriction.

***Exercise***

Solve the equation 

***Solution***

Restriction: 











But  (restriction), therefore there is ***no solution***

***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***

*Restriction:* 









 

 

 is the only solution

***Exercise***

Solve: 

***Solution***

*Restriction:* 











 The solution is {∅}

***Exercise***

Solve: 

***Solution***

*Restriction:* 













 

 

***Exercise***

Solve: 

***Solution***

 ***Restriction****: x* ≠ −3, 2











***Exercise***

Solve: 

***Solution***

***Restriction****: x* ≠ −1, −2







***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***









***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***













***Exercise***

Solve: 

***Solution***











***Exercise***

Solve: 

***Solution***













***Exercise***

Solve: 

***Solution***



***Exercise***

Solve: 

***Solution***

 M*ultiply both sides by 2*

 D*ivide both sides by h*



***Exercise***

Solve:  for *a*

***Solution***











 

***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***





***Exercise***

Solve:  *for t.*

***Solution***







***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***

*1st Method* ***Multiply by the common denominator*** 

 ***Simplify***

 ***Move R1 to one side***

 ***Factor R1***

 ***Divide by R2 - R***



*2nd Method*

 ***Common denominator on one side of the equality***

 ***Cross multiplication***

 ***Factor R1***

 ***Divide by R2 - R***



*3rd Method*



 ***Cross multiplication***

 ***Flip***

***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***







***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***





***Exercise***

Solve: 

***Solution***



***Exercise***

A sewage treatment plant has two inlet pipes to its settling pond. One can fill the pond in 10 *hrs*, the other in 12 *hrs*. If the first pipe is open for 5 *hrs* and then the second pipe us opened, how long will it take to fill the pond?

***Solution***

|  |  |  |  |
| --- | --- | --- | --- |
|  | ***Rate*** | ***Time*** | ***Job:*** *A = rt* |
| ***One*** |  | *x* |  |
| ***Other*** |  | *x* − 5 |  |













The other 

