# Equations with variables in the denominator

**Section A:**

1. Tian is solving the equation 

He would like to solve it using inverse pairs – he starts as shown below:

 Continue his work for him.

2. Consider the equation 

Joe, Alexa, Damon and Ellen are debating over what to do first:

* Joe says “add 2*j* to both sides”
* Alexa says “add 8 to both sides”
* Damon says “multiply both sides by 3 – 2*j*”
* Ellen says “multiply both sides by (3 - 2*j*), remembering to include brackets”

a) Who do you agree with? Why? Is there only one person that is correct?

b) Following the method of the person you most agree with, solve the equation.

c) You should get the answer *j* = 4. If so, well done. If not, have another go.

### Section B:

Solve the following equations:

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. 
12. 
13. 
14. 
15. 

### Section C: Dave has stupidly forgotten to show his steps when solving these equations. Do it for him.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 

Find the mistakes in the following solutions and explain them as best you can.

1. 
2. 
3. 

### 

### Section D: Solve the following equations.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 

# Homework 1

Solve the following equations, showing what you have done to each side in every step.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. \*
12. \*

Answer box:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 6 |  | 2 |  | 5 |
|  | 1 | 12 |  |  |  |

# Homework 2

Solve the following equations. You must check your answers in the box at the bottom.

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 

**Answers**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8 |  |  | 3 |  |
|  |  | 4 |  |  |
|  | 6 |  |  | 3 |