**Logo, icon

Description automatically generatedFX Library Modules**

**Simultaneous Equations  
2 Variable**

Age 13-15

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**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{4273ba20-3454-4a33-97ea-188a74b1378d}
FXGP:DP-CDJZH8A
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{34d76008-2111-4fcc-8843-87d804b7c635}
FXGP:DP-CDJZH8A
FXData:

</EFOFEX>r

**Notes**

21600 variations.

Simultaneous equations. Substitution. **Integer Solutions**

<EFOFEX>
id:fxe{503fb7ea-23cf-4996-baad-850af131962b}
FXGP:DP-CDJZH8A
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{bfbceb31-8b90-410d-bb89-47b24d1a5a6d}
FXGP:DP-4MTCJNK
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{c8bc48b0-9e2d-48d4-9d8c-27e06d5ba7e4}
FXGP:DP-4MTCJNK
FXData:

</EFOFEX>

**Notes**

100000+ variations.

Simultaneous equations. Substitution. **Integer Solutions**

<EFOFEX>
id:fxe{71de7da1-8fcb-4581-b524-efbf7493b288}
FXGP:DP-4MTCJNK
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{34dcf499-1f41-48c9-8210-1f6f363c34e3}
FXGP:DP-L9EAXXW
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{8e778ceb-f9c5-41ac-9b14-9f24414365c7}
FXGP:DP-L9EAXXW
FXData:

</EFOFEX>

**Notes**

100000+ variations.

Simultaneous equations. Substitution. **Rational Solutions**

<EFOFEX>
id:fxe{2adb65ee-6d23-466f-93b1-d7edc9d76ed7}
FXGP:DP-L9EAXXW
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{fc1b1919-6bda-41c2-8cfa-2fee9deede38}
FXGP:DP-U5HT4RW
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{430ff609-5604-4225-8300-3bfa5b68b63b}
FXGP:DP-U5HT4RW
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Substitution. **Rational Solutions**

<EFOFEX>
id:fxe{54b84d10-ec9a-4a4a-907c-e1a4be2b9e5b}

FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{d09ef0eb-7cf9-48a0-8c29-108206c512b1}
FXGP:DP-HD96K53
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{90a4a569-9fed-4aa4-a7b2-817015774ffd}
FXGP:DP-HD96K53
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Substitution. **Integer Solutions**

<EFOFEX>
id:fxe{12f72687-ed6b-4cf0-a3ed-654282445c52}

FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{0d6a2d06-1ec8-4729-8e46-a5b1f5b74c30}
FXGP:DP-8V7QFDD
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{5646ca5d-694c-4057-ba61-b96de8679513}
FXGP:DP-8V7QFDD
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Substitution. **Rational Solutions**

<EFOFEX>
id:fxe{1543f218-a5f9-4a02-a1a4-f12e6a0926af}

FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{246b9609-c61a-4176-a807-97b57f3deff1}
FXGP:DP-A34K4C4
FXData:

</EFOFEX>

**Solution**

**<EFOFEX>
id:fxe{2310804c-63e6-401b-ae0d-e2bc0a3c7ea1}
FXGP:DP-A34K4C4
FXData:

</EFOFEX>**

**Notes**

100000+ variations. Simultaneous equations. Substitution. **Integer Solutions**

<EFOFEX>
id:fxe{6f7742f5-a88b-4648-a201-8bba426aeba3}

FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{da74c527-8a06-471c-8fc7-8cb15d06e2ec}
FXGP:DP-UHUS7BZ
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{8f550ba2-e125-4776-9c9c-3097f09774f0}
FXGP:DP-UHUS7BZ
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Substitution. **Rational Solutions**

<EFOFEX>
id:fxe{12f72687-ed6b-4cf0-a3ed-654282445c52}

FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{3fa64677-f9bd-4342-8a3b-3c8d800b2650}
FXGP:DP-ZGLZ574
FXData:

</EFOFEX>

**Solution**

**<EFOFEX>
id:fxe{df80b0b2-b1c8-4095-b0fa-391fde84e104}
FXGP:DP-ZGLZ574
FXData:

</EFOFEX>**

**Notes**

100000+ variations. Simultaneous equations. Substitution. **Integer Solutions**

<EFOFEX>
id:fxe{eb2bc03d-1a35-4144-b313-6475e48a0c7a}
FXGP:DP-ZGLZ574
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{f73219d1-34bc-4069-b23a-b9a1329ad549}
FXGP:DP-ZG442SY
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{ffeaa4db-343f-4778-958c-90df59452439}
FXGP:DP-ZG442SY
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Elimination. **Rational Solutions**

<EFOFEX>
id:fxe{77feffd6-dc65-408d-9e50-a578020965a1}
FXGP:DP-ZG442SY
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{df291412-b50f-4a94-ba91-d02d252e24e2}
FXGP:DP-69WVV94
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{fb02a4cd-5518-4e3e-947f-568908c9b699}
FXGP:DP-69WVV94
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Elimination. **Integer Solutions**

<EFOFEX>
id:fxe{50faaa39-1893-4429-bab4-8e75b86b05aa}
FXGP:DP-69WVV94
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{31427ad4-a855-40db-be0e-dcfcb281ef4c}
FXGP:DP-VRRGVQF
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{4229724e-50bb-4aa8-819f-37b73bdb790e}
FXGP:DP-VRRGVQF
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Elimination. **Rational Solutions**

<EFOFEX>
id:fxe{69cde3f4-a727-4aad-83ff-251e53a44c0b}
FXGP:DP-VRRGVQF
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{9a6ea468-23dd-445a-b7ce-a7519880a6d5}
FXGP:DP-RS48TNB
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{c73839f2-84c8-439c-bd32-8d8bc7d4c4c3}
FXGP:DP-RS48TNB
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Elimination. **Integer Solutions**

<EFOFEX>
id:fxe{6192c208-2e1f-4ff5-9b59-d8011c6bdfec}
FXGP:DP-RS48TNB
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{b573a7e9-da26-40d9-85e1-6d963845f4a5}
FXGP:DP-6F62SQW
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{a7373026-0694-4a38-ad3d-aea815b62568}
FXGP:DP-6F62SQW
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Elimination. **Rational Solutions**

<EFOFEX>
id:fxe{73db6aeb-5431-47d0-b193-acb2396d0fe1}
FXGP:DP-6F62SQW
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{46ed342e-1de4-4011-b289-c8ec4528d525}
FXGP:DP-SX6H447
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{ebf81681-c081-4dfc-a9e2-dc25d1a009cb}
FXGP:DP-SX6H447
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Elimination. **Rational Solutions**

<EFOFEX>
id:fxe{000b6a7f-8413-46ec-ad2e-e812eb694784}
FXGP:DP-SX6H447
FXData:

</EFOFEX>

**Question**

Solve these equations simultaneously. Show all of your working

<EFOFEX>
id:fxe{b4817092-602c-4535-a0bc-ff5b208529bc}
FXGP:DP-AJ6838M
FXData:

</EFOFEX>

**Solution**

<EFOFEX>
id:fxe{d506367b-3923-4dbb-8d35-08cba2feedfd}
FXGP:DP-AJ6838M
FXData:

</EFOFEX>

**Notes**

100000+ variations. Simultaneous equations. Elimination. **Integer Solutions**

<EFOFEX>
id:fxe{f3b1ff32-4cce-4e39-8b48-18dfdff795d9}
FXGP:DP-AJ6838M
FXData:

</EFOFEX>

**Question**

The sum of two numbers is <EFOFEX>
id:fxe{22267ec9-acb4-4a61-bea5-9c2abedbfa9d}
FXGP:DP-DuHvQjT
FXData:

</EFOFEX> and their difference is <EFOFEX>
id:fxe{4d57b9a8-c607-4e5a-b61b-3681d609cd32}
FXGP:DP-DuHvQjT
FXData:

</EFOFEX>. Find the two numbers.

**Solution**

<EFOFEX>
id:fxe{7007db8d-1d85-40d5-9255-2b409f04dbdf}
FXGP:DP-DuHvQjT
FXData:

</EFOFEX>

**Notes**

1500+ variations.

**Question**

Jamie visits the post office to by two types of stamps: <EFOFEX>
id:fxe{da44a258-01fd-411d-b7ea-912836aaa81b}
FXGP:DP-Yu2HarG
FXData:

</EFOFEX> and <EFOFEX>
id:fxe{7f58ac4d-1d3b-49bc-81e0-9a81040c5fbd}
FXGP:DP-Yu2HarG
FXData:

</EFOFEX>. Jamie buys <EFOFEX>
id:fxe{e2bd87fc-2084-446d-a396-2e82f04ca17f}
FXGP:DP-Yu2HarG
FXData:

</EFOFEX> stamps for a total of <EFOFEX>
id:fxe{f748f0a4-2bcf-411d-9e8c-a0c2164d545d}
FXGP:DP-Yu2HarG
FXData:

</EFOFEX>. How many of each type of stamp did Jamie buy?

**Solution**

<EFOFEX>
id:fxe{99b6d215-1a7c-4616-8238-824b0e84f3cb}
FXGP:DP-Yu2HarG
FXData:

</EFOFEX>

**Notes**

10000+ variations.

The parameter $p contains a list of available stamp prices. You can change this list to represent local stamp prices if you wish. As supplied, the stamp prices are Australian international small letter stamp prices as at February 2022.

The question uses the $$ code for currency which will automatically be updated to your local currency symbol.

**Question**

You have been offered two different jobs, by two different employers.

* Employer 1 pays a flat rate of <EFOFEX>
  id:fxe{a32719c1-2a09-4387-811b-6feef7c8f5ee}
  FXGP:DP-njGMLBt
  FXData:

  </EFOFEX>per hour
* Employer 2 pays a fixed amount of <EFOFEX>
  id:fxe{59b5bc3c-016c-4bb0-a9d5-924e4c821428}
  FXGP:DP-njGMLBt
  FXData:

  </EFOFEX> plus <EFOFEX>
  id:fxe{a574a878-466a-4285-8221-f3850503916a}
  FXGP:DP-njGMLBt
  FXData:

  </EFOFEX> per hour.

Create and solve two simultaneous equations to answer the following questions:

1. Find the numbers of hours worked for which the earnings are the same for the two employers.
2. Find the amount earned when the earnings are the same from the two employers.
3. If you expect to work <EFOFEX>
   id:fxe{df7acbf3-d3f8-450a-8d2f-8d2a47bcaa98}
   FXGP:DP-njGMLBt
   FXData:

   </EFOFEX> hours per week, which is the best employer to work for and who much extra can you earn?

**Solution**

<EFOFEX>
id:fxe{50dbf8ac-c779-4baf-8e17-591eced83c8e}
FXGP:DP-njGMLBt
FXData:

</EFOFEX>

**Notes**

800+ variations.

**Question**

A rectangular block of land has a perimeter of <EFOFEX>
id:fxe{64b15a01-a965-499d-b410-1391c29af083}
FXGP:DP-TwbxRV3
FXData:

</EFOFEX> and its length is <EFOFEX>
id:fxe{8b4135dc-c6c0-4b53-892e-ae529df78533}
FXGP:DP-TwbxRV3
FXData:

</EFOFEX> more than it’s width.

<EFOFEX>
id:fxd{b384c83f-319e-4e25-a015-e06667455d02}
FXGP:DP-TwbxRV3
FXData:

</EFOFEX>

Find the area of the block.

**Solution**

<EFOFEX>
id:fxe{01262ac2-fb64-4c33-b5a7-01b10342d8c1}
FXGP:DP-TwbxRV3
FXData:

</EFOFEX>

**Notes**

600+ variations.

**Question**

Tickets to a show can either be Premium or Standard, depending on where you sit. One group ordered <EFOFEX>
id:fxe{fc289002-ed79-4ee5-925f-4f6dc3f05e92}
FXGP:DP-ZRdXY3M
FXData:

</EFOFEX> premium tickets and <EFOFEX>
id:fxe{177be8b3-adc9-4143-b8e9-85292fe8d214}
FXGP:DP-ZRdXY3M
FXData:

</EFOFEX> standard tickets for a total of <EFOFEX>
id:fxe{0d8aacc9-829b-446b-a21b-d420d5577853}
FXGP:DP-ZRdXY3M
FXData:

</EFOFEX> where a second group ordered <EFOFEX>
id:fxe{e3b6d6c4-2b41-46d1-b1dc-2447b83799be}
FXGP:DP-ZRdXY3M
FXData:

</EFOFEX> premium tickets and <EFOFEX>
id:fxe{631eb6ca-c062-4899-a028-142f0f30bca4}
FXGP:DP-ZRdXY3M
FXData:

</EFOFEX> standard tickets for a total of <EFOFEX>
id:fxe{5f48a771-5e9b-4e99-bb89-ee5113c4286d}
FXGP:DP-ZRdXY3M
FXData:

</EFOFEX>. Use this information to find the cost of a premium ticket and a standard ticket.

**Solution**

<EFOFEX>
id:fxe{23eacfcf-b221-4870-b2e4-873deb01152a}
FXGP:DP-ZRdXY3M
FXData:

</EFOFEX>

**Notes**

500000+ variations.

**Question**

The “All You Can Eat” buffet at a restaurant costs <EFOFEX>
id:fxe{8c85da3c-362f-4cec-bf0e-e24b2b026b1d}
FXGP:DP-t7a5W6q
FXData:

</EFOFEX> per adult and <EFOFEX>
id:fxe{7d91f14a-e980-4ece-bdd1-62001fb8524a}
FXGP:DP-t7a5W6q
FXData:

</EFOFEX> per child. On one particular night, the restaurant served <EFOFEX>
id:fxe{f4b51ce9-d95e-47b5-933d-74822f061ff9}
FXGP:DP-t7a5W6q
FXData:

</EFOFEX> people for a total of <EFOFEX>
id:fxe{9caf3913-cd9e-4aed-bd5d-89d889768eb4}
FXGP:DP-t7a5W6q
FXData:

</EFOFEX>. How many adults and how many children were served?

**Solution**

<EFOFEX>
id:fxe{4c235893-1c6f-44df-8fc1-bdb2461af9ae}
FXGP:DP-t7a5W6q
FXData:

</EFOFEX>

**Notes**

100000+ variations.

**Question**

A truck begins a journey travelling at <EFOFEX>
id:fxe{3cd6530e-cf9e-4cc4-a77c-2382a748dd61}
FXGP:DP-Fuuwahb
FXData:

</EFOFEX>. <EFOFEX>
id:fxe{7e7ae591-77ec-4349-9deb-36f023b3f2ca}
FXGP:DP-Fuuwahb
FXData:

</EFOFEX> hours later, a car starts chasing the truck at <EFOFEX>
id:fxe{63c95a5e-d4e9-4d9c-8aad-06af1fe61518}
FXGP:DP-Fuuwahb
FXData:

</EFOFEX>. How long will it take the car to catch the truck?

**Solution**

<EFOFEX>
id:fxe{89ab9a32-9190-4f64-8195-bc0b95a5377d}
FXGP:DP-Fuuwahb
FXData:

</EFOFEX>

**Notes**

30 variations.

**Question**

A school lab technician has a premixed chemical solution with a concentration of <EFOFEX>
id:fxe{f9b1db9a-0280-4595-a5b3-fd068ffc6b6b}
FXGP:DP-5LQeMbx
FXData:

</EFOFEX>. They wish to increase the concentration of the chemical to <EFOFEX>
id:fxe{70307643-302f-420d-83bd-9d2e1fb02481}
FXGP:DP-5LQeMbx
FXData:

</EFOFEX> and do this by adding a different solution with a concentration of <EFOFEX>
id:fxe{dfa2aa07-7a73-46b6-b348-252ffe969626}
FXGP:DP-5LQeMbx
FXData:

</EFOFEX> of the chemical . When they have finished mixing, they have <EFOFEX>
id:fxe{f59724d9-0ca3-42cf-889d-11ae912462e0}
FXGP:DP-5LQeMbx
FXData:

</EFOFEX> of <EFOFEX>
id:fxe{87678d02-f8a8-4d42-89d2-3e0669b5ba67}
FXGP:DP-5LQeMbx
FXData:

</EFOFEX> solution. How much of the higher concentration solution was added?

**Solution**

<EFOFEX>
id:fxe{c4b301c6-ec54-4525-aa23-7727b03e9690}
FXGP:DP-5LQeMbx
FXData:

</EFOFEX>

**Notes**

1500+ variations.