

Let me see, now all you want for Christmas is some MATHS HOMEWORK!

Well, you have been good boys and girls haven't you!

Okay, your wish is my command. There are 7 different types of activities to do here.

You can do 1 a day and take the rest of the time off to relax and enjoy your break.

Hand this in to Don on the first day back after the holidays.

Merry Christmas!

Name: _____

Activity 1: Logic Puzzles. There are two to do.

Puzzle 1: Christmas cards Logic Puzzle

Connor, Cameron, Liam, James, and Joe each gave one Christmas Day card to a their favourite teacher. The teachers, Mrs Barratt, Miss Burton, Miss Vout, Mrs Lamb, and Miss Marsden each received one Christmas Day card...but who gave it to them?

- Cameron did not give a card to Mrs Barratt.
- Miss Marsden heard Liam say that he did not give a card to Mrs Lamb.
- James gave Miss Marsden a card.
- Joe could not decide whether to give a card to Miss Vout or to Mrs Barratt. They are both nice, and he likes to talk to both of them. Since he couldn't decide, he decided to give a card to someone else on Christmas Day!
- Mrs Lamb knows that either Liam or Connor gave her a card.

	Connor	Cameron	Liam	James	Joe
Miss Marsden					
Mrs Lamb					
Miss Burton					
Miss Vout					
Mrs Barratt					

Miss Marsden	
Mrs Lamb	
Miss Burton	
Miss Vout	
Mrs Barratt	

Puzzle 2: Christmas dinner Logic Puzzle

Christmas dinner is at Maya's house this year. She invited her family (Hannah, Archie, Brody, Erika, Kayden, Taryn, Joshua, and Katie) to her house. Her father, her sister, her mother, her uncle, her grandmother, her aunt, her grandfather, and her brother all had a great time!

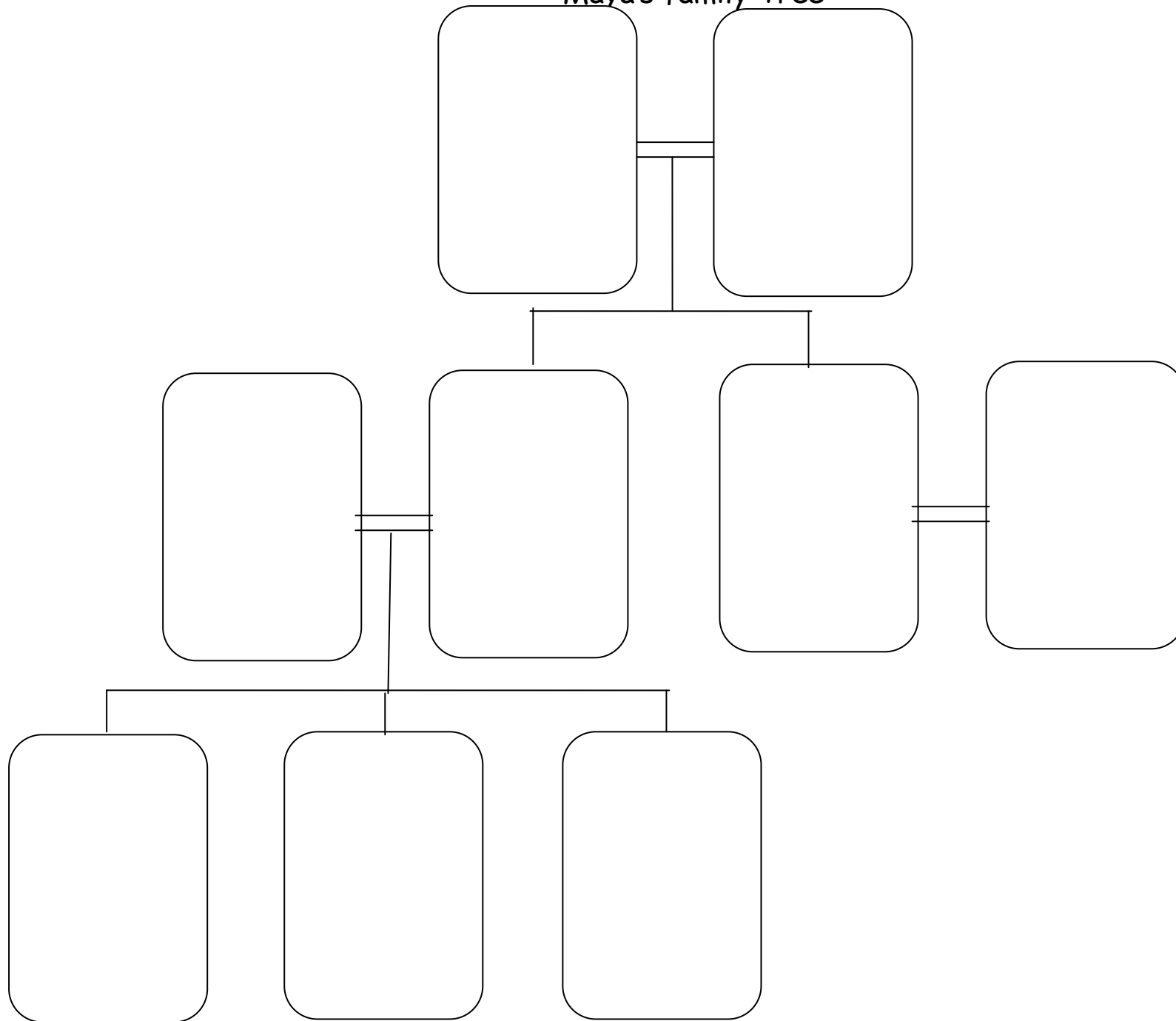
Figure out how each person is related to Maya and make a family tree.

- Hannah is Maya's aunt.
- Erika is not Maya's sister.
- Kayden is Taryn's brother.
- Brody is Maya's father.
- Katie is not Maya's grandmother.
- Katie is Taryn's mother.
- Archie is Katie's brother.
- Kayden has no children.
- In the afternoon, all of the men were watching football. Katie, Erika, Taryn, and Hannah were talking and not watching football.
- Taryn is not Maya's mother.

	Hannah	Archie	Brody	Erika	Kayden	Taryn	Joshua	Katie
Father								
Mother								
Sister								
Brother								
Aunt								
Uncle								
Grandmother								
Grandfather								

Father	
Mother	
Sister	
Brother	
Aunt	
Uncle	
Grandmother	
Grandfather	

Maya's family Tree



Activity 2: The price of Christmas (clue use the total then take away combination to be left with a single present e.g. if paid £36 for 5 presents and Anne & Brody was £6 then Charlie, Danielle and Edward total is £30 (£36-£6). If You know Chralie and Danielle was £15 then that leaves Edward as £15 (£30-£15). Once oyu have one its easy to solve the rest!

<p>Ben paid £21 for five presents. For Anne and Brody's he paid a total of £6. For Brody's and Charlie's he paid a total of £10. For Charlie's and Danielle's he paid a total of £7. For Danielle's and Edward's he paid a total of £9. How much did Ben pay for each present?</p>	
<p>Cameron paid £29 for five presents. For Archie's and Ben's he paid a total of £11. For Ben's and Chloe's he paid a total of £13. For Chloe's and Danielle's he paid a total of £12. For Danielle's and Erika's he paid a total of £9. How much did Cameron pay for each present?</p>	
<p>Danielle paid £47 for five presents. For Abigail's and Brody's she paid a total of £20. For Brody's and Chloe's she paid a total of £21. For Chloe's and David's she paid a total of £16. For David's and Emily's she paid a total of £18. How much did Danielle pay for each present?</p>	
<p>Katie paid £80 for five presents. For Audra's and Barney's she paid a total of £31. For Barney's and Charlie's she paid a total of £37. For Charlie's and Darren's she paid a total of £36. For Darren's and Erika's she paid a total of £29. How much did Ben pay for each present?</p>	

Activity 3: Santa's sacks

Santa has five sacks.

Can you use the clues to find out how many parcels he has in each sack?

In **sack 1** he has less than 30 parcels. He counts them in groups of two. He has 1 left over. He then counts them in groups of three. He has 0 left over. He finally counts them in groups of five. He has 1 left over. How many parcels are in sack 1?

In **sack 2** he has less than 50 parcels. He counts the parcels in groups of five. He has 2 left over. Then he counts the parcels in groups of four. He has 3 left over. Finally, he counts the parcels in groups of three. He has 2 left over. How many parcels are in sack 2?

In **sack 3** he has less than 60 parcels. He counts them in groups of three. He has 2 left over. He then counts them in groups of four. He has 3 left over. He finally counts them in groups of five. He has 4 left over. How many parcels are in sack 3?

In **sack 4** he has less than 100 parcels. He counts the parcels in groups of four. He has 0 left over. Then he counts the parcels in groups of five. He has 0 left over. He finally counts them in groups of six. He has 0 left over. How many parcels are in sack 4?

In the **sack 5** he has less than 100 parcels. He counts them in groups of seven. There are 6 left over. Then he counts them in groups of eight. There are 2 left over. Finally, he counts them in groups of nine. There are 0 left over. How many parcels are in sack 5?

How many parcels altogether in the five sacks?

Activity 4: Present Puzzle (clue: combine totals and then take away what you know e.g. if $1^{\text{st}} + 2^{\text{nd}} = \text{£}5$ and $1^{\text{st}} + 3^{\text{rd}} = \text{£}7$ then $1^{\text{st}} + 1^{\text{st}} + 2^{\text{nd}} + 3^{\text{rd}} = \text{£}12$. If $2^{\text{nd}} + 3^{\text{rd}} = \text{£}4$ then $1^{\text{st}} + 1^{\text{st}} = \text{£}8$ so $1^{\text{st}} = \text{£}4$ and you can then work out the rest!).

There are 6 different versions to solve.

Maisie bought three presents for Christmas. Can you work out how much they cost?



The first present and the second cost a total of £13
 The second present and the third present cost a total of £16
 The first and the last present cost a total of £11

Laura bought three presents for Christmas. Can you work out how much they cost?



The first present and the second cost a total of £13
 The second present and the third present cost a total of £15
 The first and the last present cost a total of £12

Abigail bought three presents for Christmas. Can you work out how much they cost?



The first present and the second cost a total of £12
 The second present and the third present cost a total of £14
 The first and the last present cost a total of £16

Mia bought three presents for Christmas. Can you work out how much they cost?



The first present and the second cost a total of £15
 The second present and the third present cost a total of £14
 The first and the last present cost a total of £17

Hannah bought three presents for Christmas. Can you work out how much they cost?




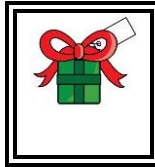
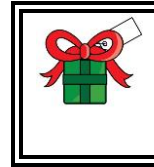
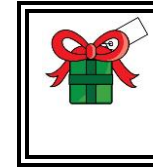






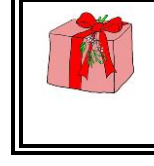



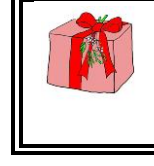
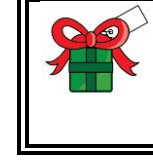



The first present and the second cost a total of £19
 The second present and the third present cost a total of £21
 The first and the last present cost a total of £16

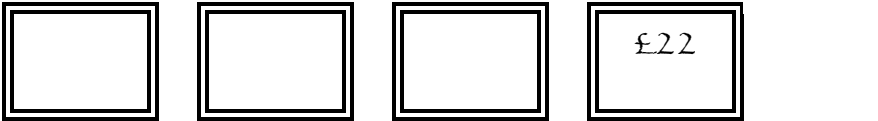
Mia bought three presents for Christmas. Can you work out how much they cost?



The first present and the second cost a total of £22
 The second present and the third present cost a total of £17
 The first and the last present cost a total of £19

Activity 5: Christmas Present Grid Puzzles – work out the value of each row and column and then the value of each individual present. There are 4 different puzzles.

				£12
				£19
				
				
		£18	£14	
 =	 =	 =		




				£40
---	---	---	---	-----

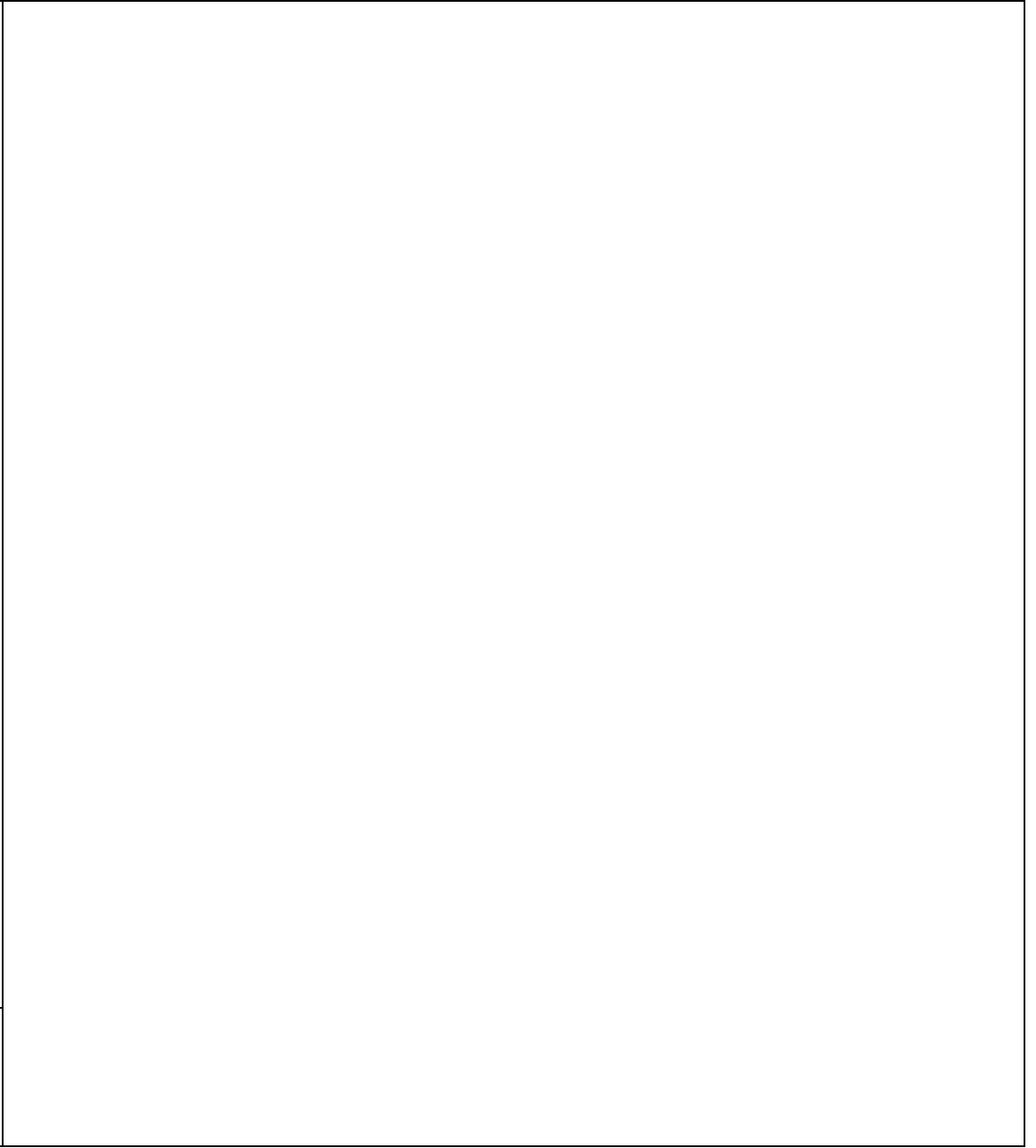
				£32
---	---	---	---	-----

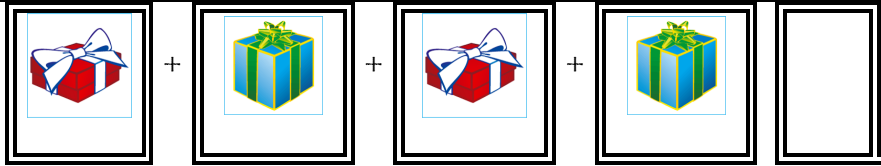
				£31
---	---	---	---	-----

				
---	---	---	---	--

£36			
-----	--	--	--

 =	 =	 =
---	---	---



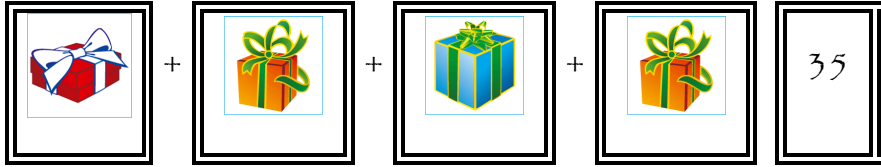


+ + + +



+ + + +

37



+ + + +

35



28 33



Activity 6: Christmas Parcel Postage Stamps



Laura's parcel costs 37p to post. She only has 3p stamps and 5p stamps. How many of each stamp will she need? There are 2 ways to do it, can you find both?



Jimmy's parcel costs 47p to post. He only has 4p stamps and 5p stamps. How many of each stamp will he need? There are 2 ways to do it, can you find both?



Archie's parcel costs £1 to post. He only has 6p stamps and 7p stamps. How many of each stamp will he need? There are 2 ways to do it, can you find both?



Taryn's parcel costs £1.15 to post. She only has 8p stamps and 9p stamps. How many of each stamp will she need? There are 2 ways to do it, can you find both?

Activity 7: 12 Days of Christmas Puzzle – How many items do you get each day and what is the total at the end?

Verse	Calculation	Total
On the first day of Christmas my true love sent to me: 1 partridge in a pear tree		
On the second day of Christmas my true love sent to me: 2 turtle doves and 1 partridge in a pear tree,		
On the third day of Christmas my true love sent to me: 3 french hens, 2 turtle doves and 1 partridge in a pear tree,		
On the fourth day of Christmas my true love sent to me: 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree		
On the fifth day of Christmas my true love sent to me: 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree		
On the sixth day of Christmas my true love sent to me: 6 geese a laying, 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree		
On the seventh day of Christmas my true love sent to me: 7 swans a swimming, 6 geese a laying, 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree		

<p>On the eighth day of Christmas my true love sent to me: 8 maids a milking, 7 swans a swimming, 6 geese a laying, 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree</p>		
<p>On the ninth day of Christmas my true love sent to me: 9 ladies dancing, 8 maids a milking, 7 swans a swimming, 6 geese a laying, 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree</p>		
<p>On the tenth day of Christmas my true love sent to me: 10 lords a leaping, 9 ladies dancing, 8 maids a milking, 7 swans a swimming, 6 geese a laying, 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree</p>		
<p>On the eleventh day of Christmas my true love sent to me: 11 pipers piping, 10 lords a leaping, 9 ladies dancing, 8 maids a milking, 7 swans a swimming, 6 geese a laying, 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree</p>		
<p>On the twelfth day of Christmas my true love sent to me: 12 drummers drumming, 11 pipers piping, 10 lords a leaping, 9 ladies dancing, 8 maids a milking, 7 swans a swimming, 6 geese a laying, 5 gold rings, 4 calling birds, 3 French hens, 2 turtle doves and 1 partridge in a pear tree</p>		
<p>Can you work out how many presents were sent altogether</p>		