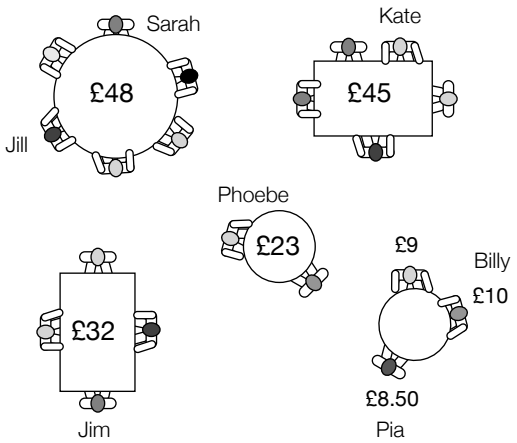
Order of Operations Using Contexts

1 The diagram shows a plan view of people sitting in a cafe.
The value in the middle of each table is the total bill for the table.
Each table shares their bill equally except for the table of three.



Write an expression for:

a) how much Jill pays.
b) how much Kate pays.
c) how much Kate and Jill pay altogether.

d) how much Jim and Jill pay altogether.
e) how much Sarah and Phoebe pay altogether.
f) how much Pia, Kate and Jim pay altogether.

g) Jim's change if he pays with s £10 note.
h) Kate's change if she pays with s £20 note.
i) the diffference between Phoebe's bill and Jim's bill.

2 For each situation, write an expression for the calculation ... and complete it with two more lines of working.

a) On Tuesday Niall went for a quick lunch with five other friends. The bill came to £42 and they split the cost equally.

On Wednesday he went for a quick lunch with three other friends. The bill came to £24 and they split the cost equally.

How much did Niall spend in total?

b) On Saturday Leela went for a quick lunch with two other friends. The bill came to £27 and they split the cost equally.

On Sunday she went for a quick lunch with four other friends. The bill came to £35 and they split the cost equally.

How much did Leela spend in total?

c) On Wednesday Caitlin went for lunch with four other friends. The bill came to £46 and they split the cost equally.

On Thursday she went for a quick lunch with three other friends. The bill came to £28 and they split the cost equally.

How much less did Caitlin spend on Thursday?

d) On Saturday Zak went for lunch with three other friends. The bill came to £32 and they split the cost equally.

He paid his share with a £10 note.

How much change did Zak receive?

e) On Tuesday Lucy went for lunch with two other friends. The bill came to £36 and they split the cost equally.

She paid her share with a £20 note.

How much change Lucy receive?

f) On Sunday Aaron went for lunch with five other friends. The bill came to £72 and they split the cost equally.

He paid her share with a £10 note and a £5 note.

How much change did Aaron receive?

g) Jamie lives in a flat with three others. At the end of March one person moved out. They split their utility bills equally.

Their March electricity bill was £120.

Their April electricity bill was £90

How much as Jamie paid in total?

h) Maddie lives in a flat with two others. At the end of October one person moved out. They split their utility bills equally.

Their October gas bill was £60

Their November gas bill was £80

How much more did Maddie pay in November than in October?

i) Rosie lives in a flat with four others. At the end of January another person moves in. They split their utility bills equally.

Their January water bill was £51.

Their February water bill was £54

How much less did Rosie pay in February than in January?

3 Write a story foreach of these expressions ... and work out the answer.

a) $12 \div 2 + 21 \div 3$ b) $20 - 30 \div 5$ c) $66 \div 6 - 56 \div 8$ d) $30 + 27 \div 3$

4 Evalaute these expressions and calculate their value.

a) $24 \div 8 + 30 \div 6$ b) $45 \div 5 - 32 \div 4$ c) $23 - 15 \div 5$ d) $3^2 + 18 \div 3$

e) $42 \div 7 + 4^2$ f) $352 - 7 \div 7$ g) $2 \times 3 + 16 \div 4 + 8 \times 2$ h) $100 - 35 \div 7 - 3^2$