

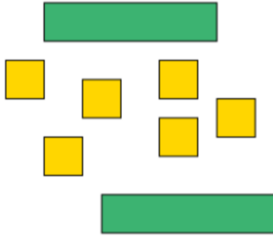


Introduction to Factorising

Physical Stage

- 1 Below are diagrams using Algebra Tiles. For each question:
- Write down the expression represented by the tiles
 - Use your own set of Algebra Tiles to re-arrange the set of tiles into a perfect rectangle
 - Write down a **different** expression to represent the tiles based on your diagram in part b)

Example



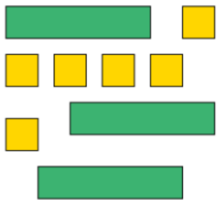
a) The tiles represent the expression $2x + 6$

b) The tiles can be re-arranged to

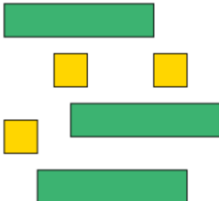
| | | | | |
|---|-----|------|---|---|
| | x | $+3$ | | |
| 2 | x | 1 | 1 | 1 |
| | x | 1 | 1 | 1 |

c) A different expression is $2(x + 3)$

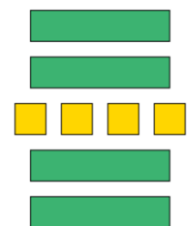
a)



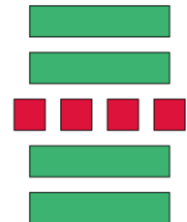
b)



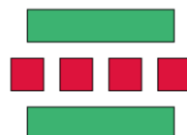
c)



d)



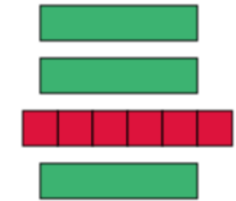
e)



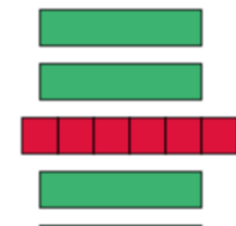
f)



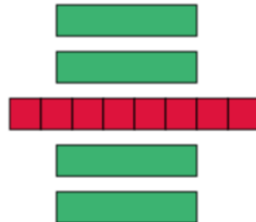
g)



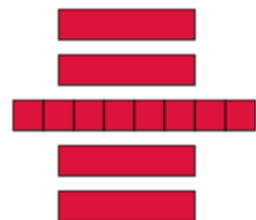
h)



i)

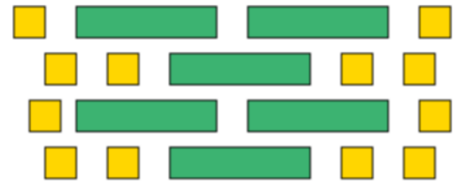


j)



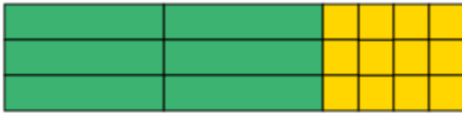
2

a) What expression is represented by the tiles on the right?

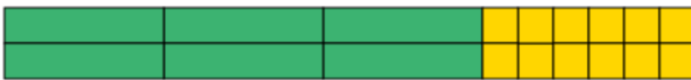


Robert, Sarah and Tommy want to make a perfect rectangle out of the Algebra Tiles, here are their answers.

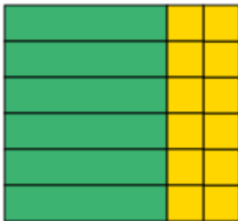
Robert:



Sarah:



Tommy:



b) Write down an expression for the new way each person has re-arranged the tiles.

Robert:

Sarah:

Tommy:

c) What is the highest common factor (HCF) of $6x$ and 12 ?

d) Who's representation uses the HCF in their diagram? Explain how you know.

e) Use your previous answers to write $6x + 12$ into fully factorised form.