Mathematics
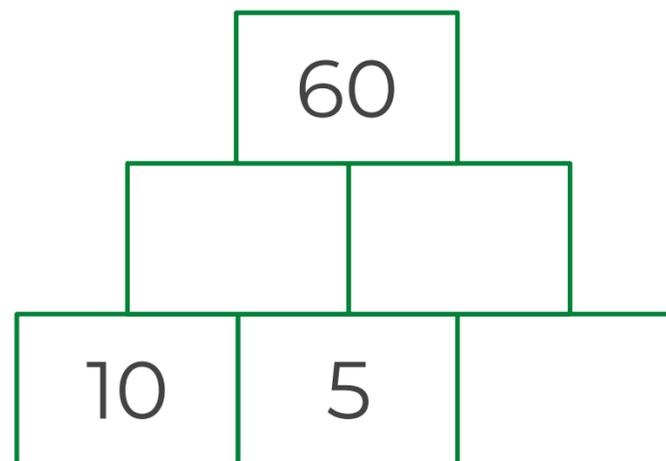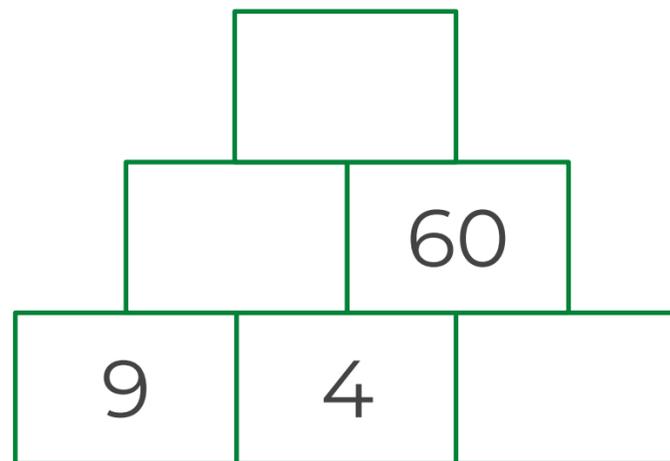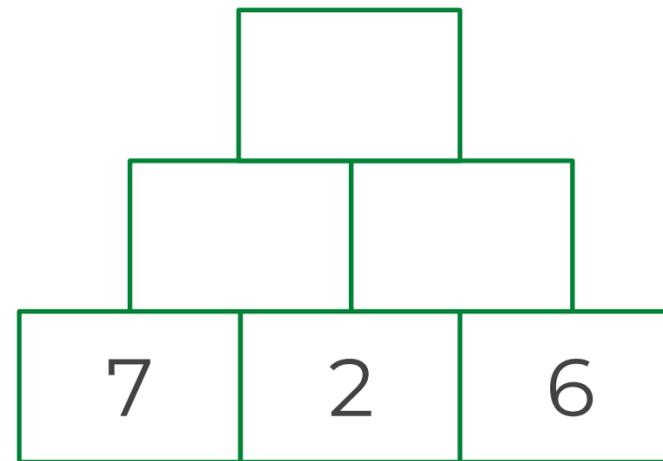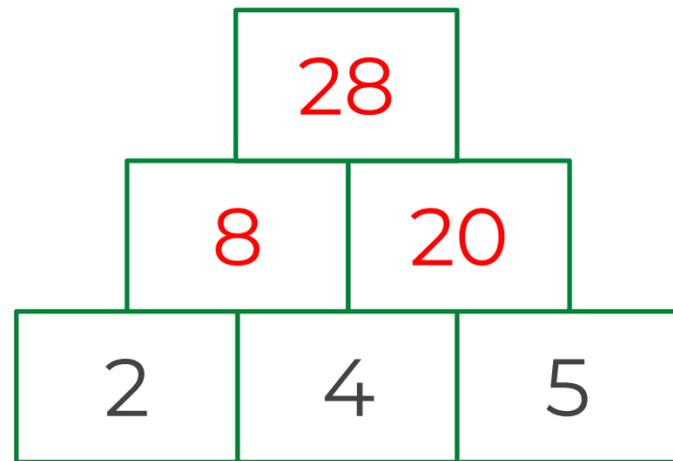
Number Pyramids Worksheet

Mr Coward

Try this

The numbers on the bottom row are **multiplied** to fill the middle row.
The numbers in the middle row are **added** to fill the top brick.

Pyramid 1:
- Top: 28
- Middle: 8, 20
- Bottom: 2, 4, 5

Pyramid 2:
- Top: (empty)
- Middle: (empty), (empty)
- Bottom: 7, 2, 6

Pyramid 3:
- Top: (empty)
- Middle: 60, (empty)
- Bottom: 9, 4, (empty)

Pyramid 4:
- Top: 60
- Middle: (empty), (empty)
- Bottom: 10, 5, (empty)

Pyramid 5:
- Top: 25
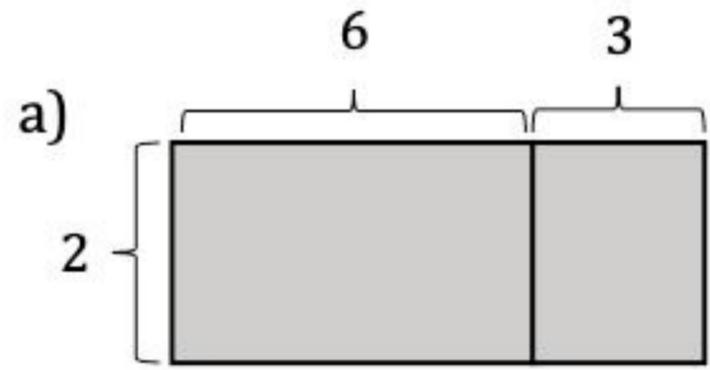- Middle: (empty), (empty)
- Bottom: (empty), 5, (empty)
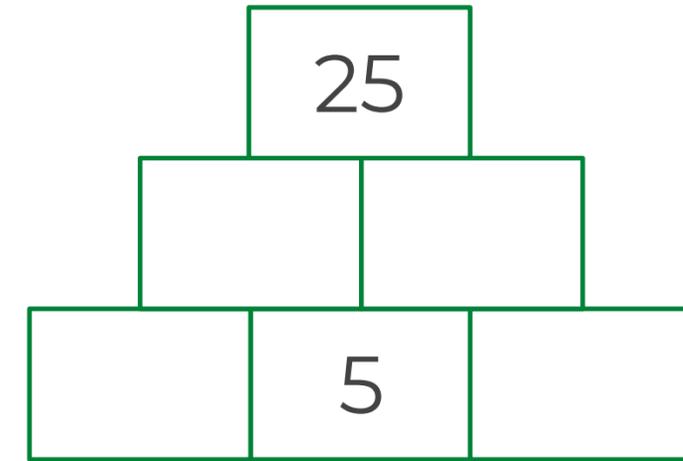
Copy and complete the pyramids.
How many solutions can you find for the final pyramid?

Independent task

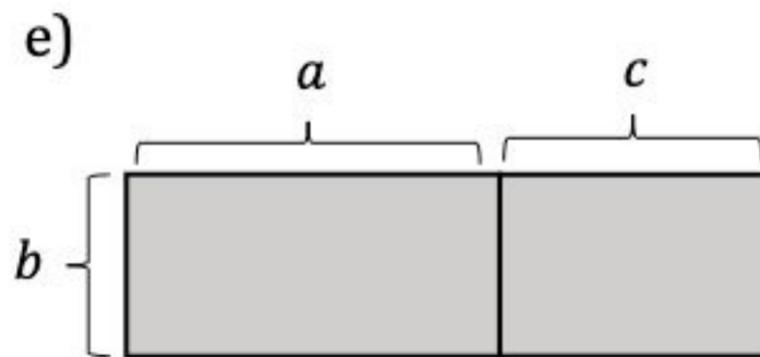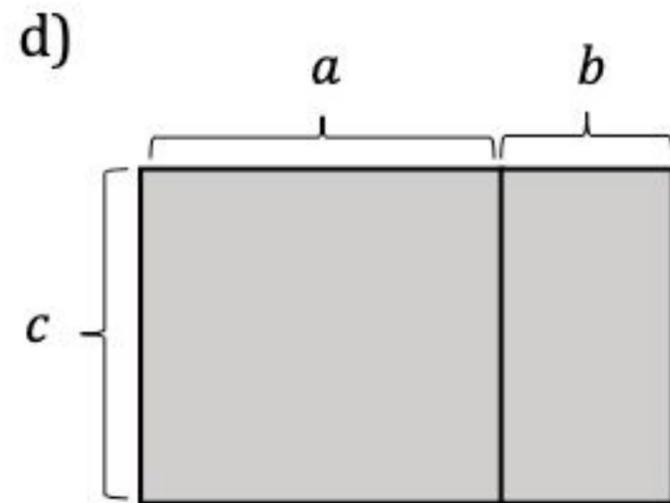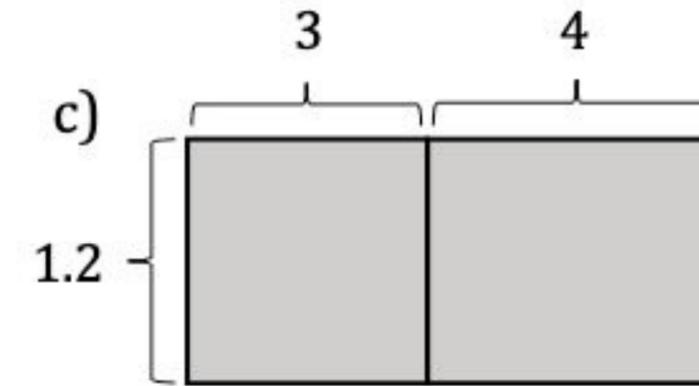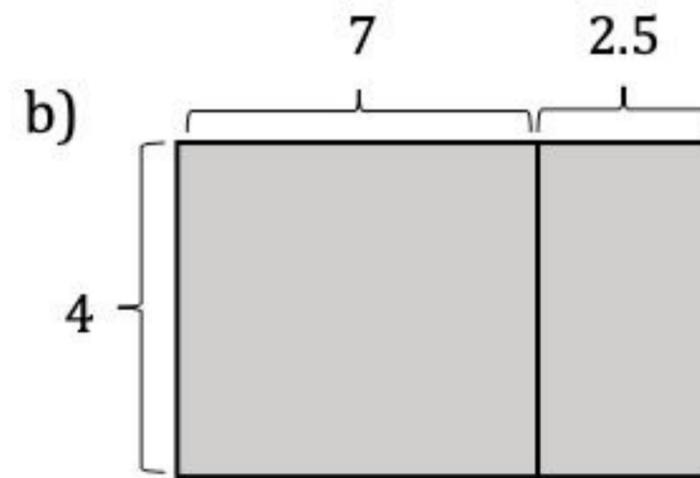1) For each diagram write out two equivalent expressions.

a)

6   3

2

$$2 \times (6 + 3) = 2 \times 6 + 2 \times 3$$

b)

7   2.5

4

c)

3   4

1.2

d)

a   b

c

e)

a   c

b

f)

a   b

4
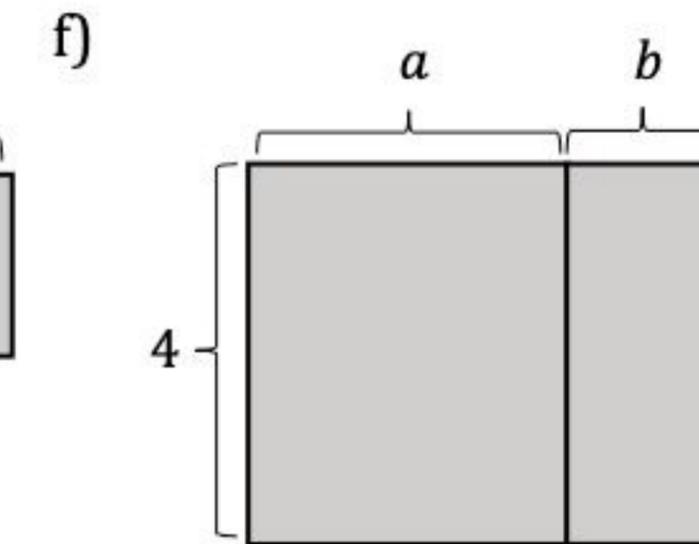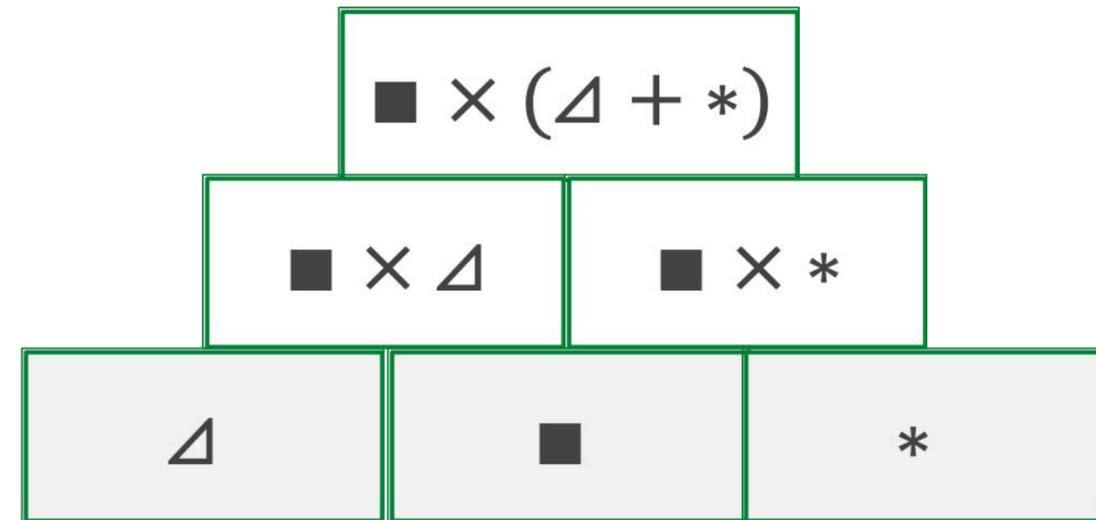
Explore

We can see that Yasmin's conjecture will **always** be true.

The top brick will be a multiple of the middle brick on the bottom row.

$$\blacksquare \times (\varangle + *)$$

$$\blacksquare \times \varangle \qquad \blacksquare \times *$$

$$\varangle \qquad \blacksquare \qquad *$$

What other **conjectures** and **generalisations** can you come up with?

The top brick will be even if…

The top brick will be greatest if…

The top brick will be a square number if…