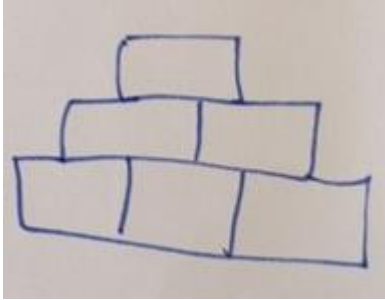# Number Pyramids Week – Additive Reasoning Y3/4

You will need this for the week:

- Paper and pencil

- Printed sheet of pyramids or pyramids drawn on paper for each day
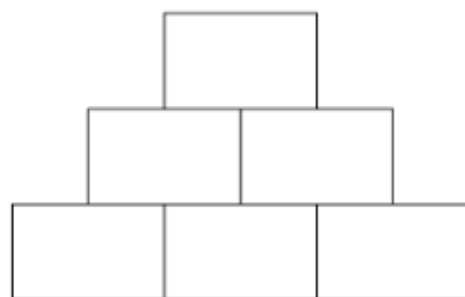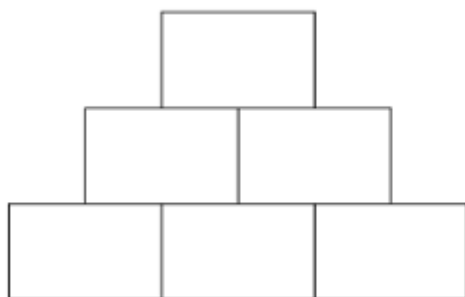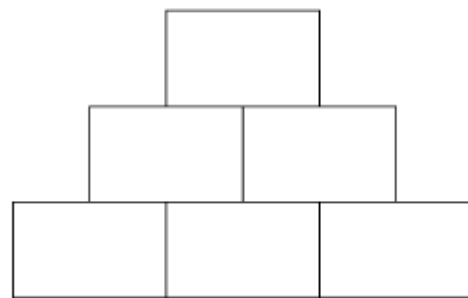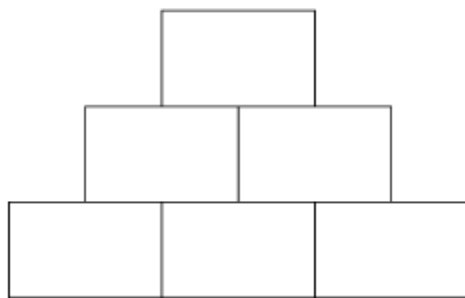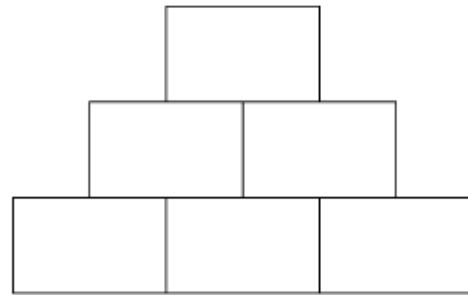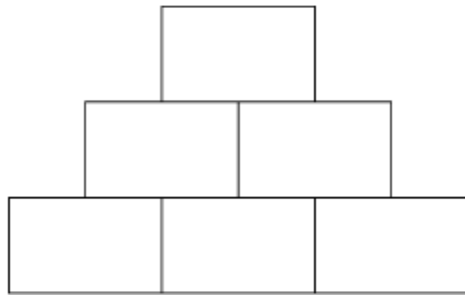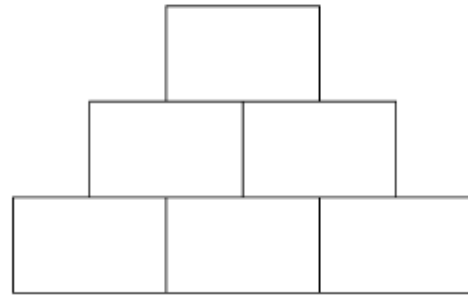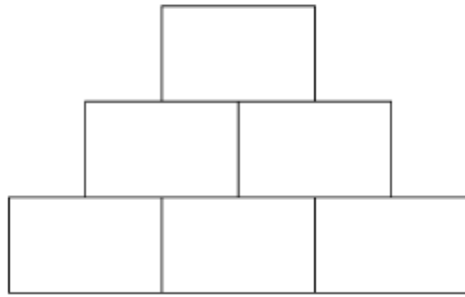

- To keep your pyramids as you work through the week

Email: LDP-SchoolImprovementTeam@babcockinternational.com
Website: www.babcockldp.co.uk/improving-schools-settings/mathematics

Tweet pictures of work referencing @BabcockLDPmaths with the hashtag #BabcockMathsAtHome
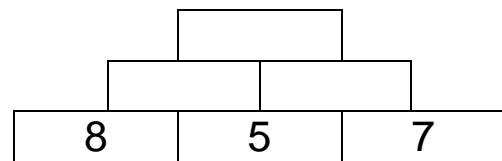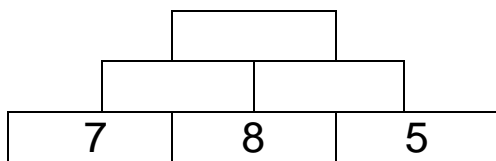
Number Pyramids Week – Additive Reasoning Y3/4

Day 1

```
        ┌──────────┐
        │    27    │
     ┌────────┬────────┐
     │   15   │   12   │
  ┌────────┬────────┬────────┐
  │   8    │   7    │   5    │
  └────────┴────────┴────────┘
```
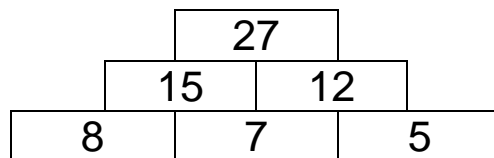
- Look at this pyramid. Can you work out how the numbers in the middle layer and top are found using the bottom layer?

  Hint – think about adding pairs of numbers together

- Complete these two pyramids, where the numbers in the bottom layer have been rearranged

```
        ┌──────────┐              ┌──────────┐
        │          │              │          │
     ┌──────┬──────┐           ┌──────┬──────┐
     │      │      │           │      │      │
  ┌──────┬──────┬──────┐    ┌──────┬──────┬──────┐
  │  7   │  8   │  5   │    │  8   │  5   │  7   │
  └──────┴──────┴──────┘    └──────┴──────┴──────┘
```

- You have used the same three numbers at the bottom of the pyramid. What do you notice about the numbers in the middle layer and the top of all three pyramids?

- Can you find any other ways to arrange the numbers 8, 7 and 5 in the bottom layer? What do you notice about the numbers in the top of each pyramid?

Notes for adults working with groups of children

- Children may need resources to support the addition e.g. Numicon, bead strings…

Number Pyramids Week – Additive Reasoning Y3/4

Day 2

- Using these three digits: 5, 9, 2

- How many different pyramids can you make?

- How many different numbers can you make at the top?

- What do you notice about pyramids from day 1 and today?

Notes for adults working with groups of children

- Children may need resources to support the addition e.g. Numicon, bead strings…

Number Pyramids Week – Additive Reasoning Y3/4

Day 3

- Choose your own three different single-digits numbers to make six different pyramids

- Look at the two pyramids with the largest number at the top – what do you notice about the number in the centre of each bottom layer?

- Look at the two pyramids with the smallest number at the top – what do you notice about the number in the centre of each bottom layer?

- Choose three more single-digits numbers. How can you work out the largest possible number that can go at the top?

- Using the same three numbers, how can you work out the smallest possible number that can go at the top?

Notes for adults working with groups of children

- Children may need resources to support the addition e.g. Numicon, bead strings…
- Making a pyramid using Numicon could help draw attention to how the largest and smallest numbers are generated at the top
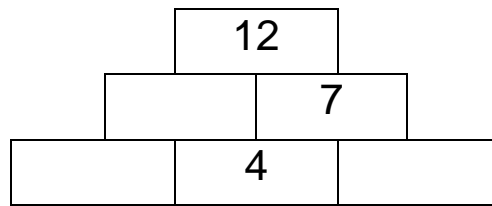
Number Pyramids Week – Additive Reasoning Y3/4
Day 4

```
        | 12 |
      |    |  7 |
   |    |  4 |    |
```
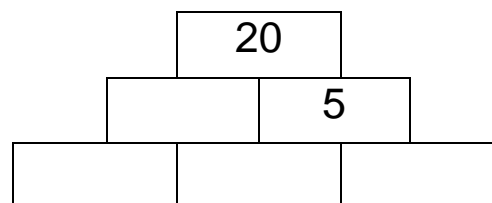
- Look at this pyramid
- Can you work out the other numbers that fit into this pyramid?
- Where is the best place to start when working out the missing numbers in this pyramid?
- Next look at this pyramid

```
        | 23 |
      |    |    |
   |  6 |  7 |    |
```

- Can you work out the other numbers that fit into this pyramid?
- Where is a good place to start when working out the missing numbers in this pyramid?

```
        | 20 |
      |    |  5 |
   |    |    |    |
```

- Look at this pyramid
- How many different pyramids can you make with the 20 and 5 in the same positions? What do you notice about the numbers in the bottom row?

Notes for adults working with groups of children
- Children may need resources to support the addition and subtraction e.g. Numicon, bead strings…

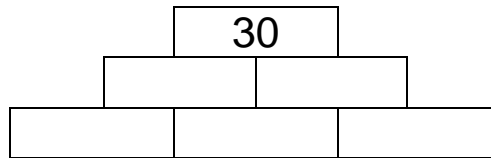# Number Pyramids Week – Additive Reasoning Y3/4

Day 5

- Look at this pyramid
- Make some different pyramids with 30 at the top.
- Choose one of your pyramids and add up the three numbers in the bottom layer.
- Repeat for another…and another.
- What do you notice about the totals for each of these bottom layers and the top number 30?

Notes for adults working with groups of children

- Children may need resources to support the addition and subtraction e.g. Numicon, bead strings…

Tweet pictures of work referencing @BabcockLDPmaths with the hashtag #BabcockMathsAtHome