

**Algebra, statistics and logic items**

Approach: Independent

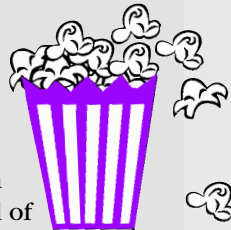
Level: Year 4 and year 8

Resources: None

Questions/instructions

**POPCORN**

You and your friend are making popcorn for a class party. You need to work out how many spoons of corn you will need for 36 people. Each person should get a bowl of popcorn.



Spoons	Bowls Made
1	2
3	6
5	10

1. [YEAR 4 ONLY] How many spoons of popcorn for 10 bowls? 5 spoons 50

2. [YEAR 8 ONLY] You see a pattern in the table, but your friend does not. Tell your friend how many bowls of popcorn can be made with 6 spoons of corn. Explain how you know this from the pattern in the table.

- correct answer and explanation 50
- correct, but vague explanation 21
- other 29

3. Think about the pattern. If you have to make 36 bowls of popcorn, how many spoons of corn will you need? 18 spoons 12 61

4. Henry is older than Bill, and Bill is older than Peter. Then

- a. Henry is older than Peter.
- b. Henry is younger than Peter.
- c. Henry is the same age as Peter.
- d. There is not enough information given to tell which is true.

a 46

% responses  
y4 y8

5. The chart below shows that one jug will hold 4 cups of juice and 2 jugs will hold 8 cups of juice.

Jugs	1	2	3	4															
Juice	4	8																	

Continue the pattern in both rows of the chart until you find the number of jugs needed to hold 46 cups of juice.

- chart correct to 12 jugs 73
- one error up to 12 jugs 5

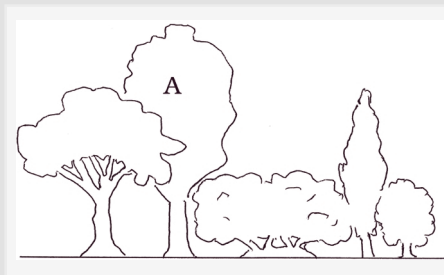
6. How many jugs will you need for 46 cups of juice? 11½ or 12 64

7. Explain how you got your answer

- clear, concise explanation 50
- on the right track, but less clear 21
- other 29

**TREE GRAPH**

Here is a picture of 5 trees. Letter A on the picture of the tree matches letter A in the graph.



Write the letters B,C,D,E on the trees to match the letters on the graph.

number of letters correctly placed: 4 17

