



DEEPENING UNDERSTANDING ANSWER SHEET

YEAR 4 PIM – MAKING A WHOLE

Fluency 1

53 squares of the 100 square shaded

80 squares of the 100 square shaded

97 squares of the 100 square shaded

Fluency 2

There are 24 hundredths.

76 more hundredths are needed to make a whole.

$$\underline{0.24} + \underline{0.76} = 1$$

Fluency 3

The first bar model is missing 0.41

$$\underline{0.59} + \underline{0.41} = \underline{1}$$

The second bar model is missing 0.27

$$\underline{0.27} + \underline{0.73} = \underline{1}$$

Reasoning 1

Pupils should have reached the following decisions about the statements...

There must be 32 hundredths on the left – agree

One whole cannot be represented on the chart – disagree

There cannot be 76 hundredths on the right – agree

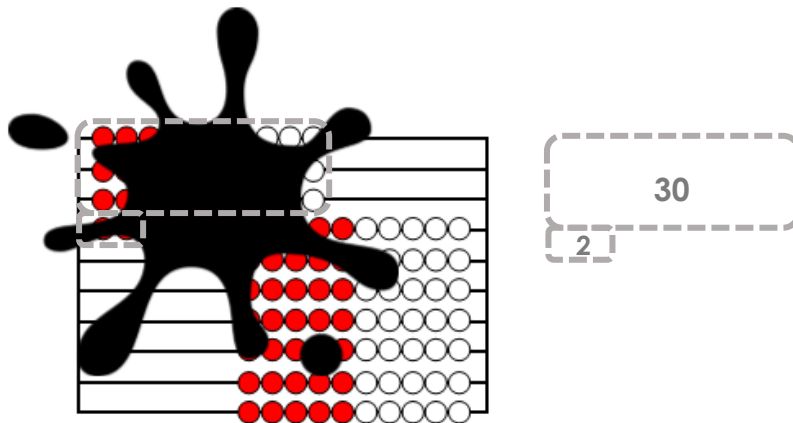


Modelled DAB Reasoning Responses

D – I agree

A – There must be 32 hundredths on the left of the rekenrek

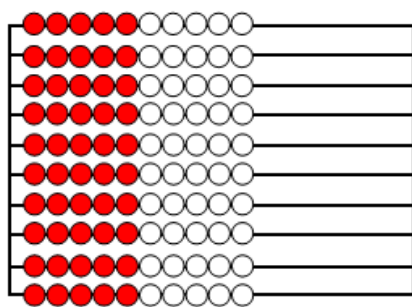
B – The top three rows of the rekenrek will show 30 beads as there are 10 beads in each row and none on the right. On the fourth row, we can see at least two red beads. This demonstrates that there are at least 32 hundredths on the left.



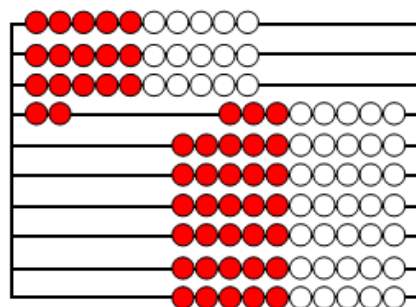
D – I disagree

A – One whole can be represented on the rekenrek chart

B – On a rekenrek chart there are 100 beads. If they are all moved to the left, they would represent a whole. If they are split left and right, the sum of the representations will be a whole.



1 whole

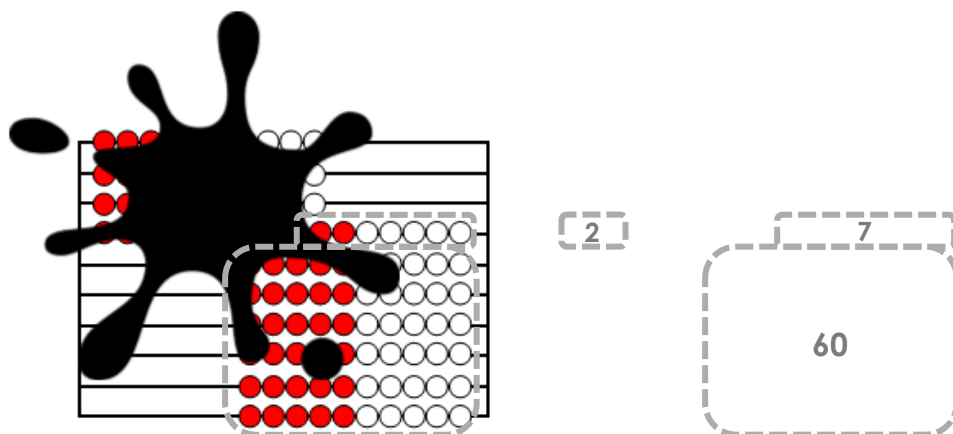


$0.32 + 0.68 = 1$

D – I agree

A – There cannot be 76 hundredths on the right of the rekenrek chart

B – Seventy-six hundredths would require at least 7 rows of 10 beads on the right. However, the visual only shows 6 rows of ten beads. On the 7th row, there are at least two beads on the left and seven beads on the right, proving the decimal represented could be 0.67 or 0.68.



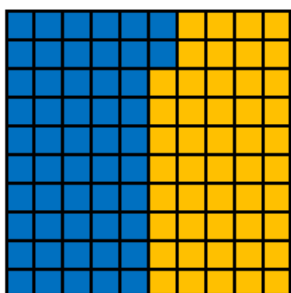
Reasoning 2

Modelled DAB Reasoning Response

D – Alfie is wrong

A – Adding £0.58 to 52p will not make a whole (£1).

B – He needs to add £0.48 to make a whole.



$$0.52 + 0.48 = 1$$

Reasoning 3

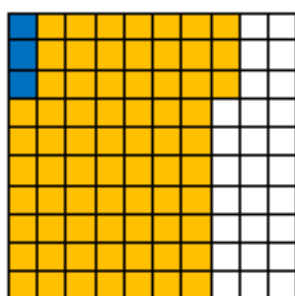
Pupil responses should show that Asha is incorrect.

Modelled DAB Reasoning Response

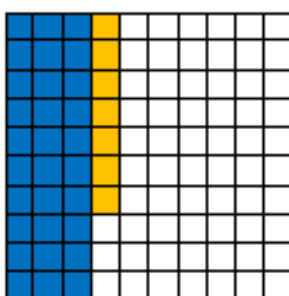
D – Asha is incorrect

A – Not all of Asha's calculations make a whole

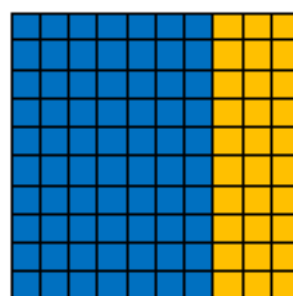
B – $0.7 + 0.3$ is the only calculation that equals 1 (a whole)



$$0.03 + 0.7 = 0.73$$



$$0.3 + 0.07 = 0.37$$



$$0.7 + 0.3 = 1$$

Download our 'DAB' posters to support reasoning in your classroom:

<https://www.deepeningunderstanding.co.uk/product/dab-reasoning-posters/>

Problem Solving 1

There are 4 different solutions:

Millie – 0.46 Jane 0.47 Ranjit – 0.07

Millie – 0.46 Jane 0.49 Ranjit – 0.05

Millie – 0.48 Jane 0.49 Ranjit – 0.03

Millie – 0.48 Jane 0.51 Ranjit – 0.01

