

The Answer is 36

The activities are related to work in Ma2 Number and Algebra.

Pupils should be taught to: develop a range of strategies for mental calculation, derive unknown facts from those they know and multiply and divide numbers with no more than one decimal digit [for example, 14.3×4 , $56.7 \div 7$], using factorisation when possible.



Organisation of the materials

The SMART Notebook™ file is saved as “Answer is 36.notebook” which also includes the SMART Ideas™ file “Answer is 36.ipr” as a file attachment. The Notebook file consists of three pages, of which the first is the title page.

Page 2 is a blank page and Page 3 contains teacher notes which are amplified here.

To use this resource you will need to have SMART Ideas v.5 installed on your computer. This can be downloaded from www.smarttech.com/products/smartideas/index.asp

The Calculations section of the “KS3 Framework” suggests a range of numerical starting points that would be supported by the type of activity suggested here.

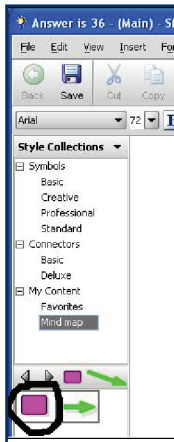
Notes

The main task

The SMART Notebook Gallery has an Education area, within which there is a Mathematics area. This contains some useful information. This activity can be used as a lesson starter to support the development of a range of mathematical concepts. The teaching approach can be adapted to a range of different areas of mathematics and encourages pupils to suggest their own ideas that link to the answer.

Display the SMART Ideas file and ask pupils to consider calculations that are equivalent to the answer 36. Depending on the ability of the pupils, the responses could range from $35 + 1$ to 0.04×900 . You could focus pupils' responses by setting the expectation of which operations and types of number you would like them to use.

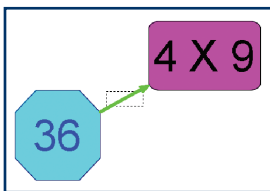
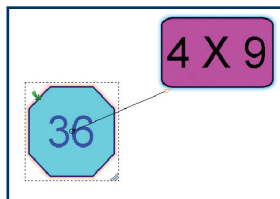
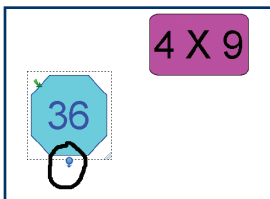
Adding a Response



- To add a response to the board, simply choose a colour and shape option from the 'Style Collections' window. We have chosen a blue hexagon and pink rectangle in this example but you can choose any style you like
- Tap the screen and then choose a pen tool to add text to the card
- Convert the freehand text to typed text

Connecting Cards

To connect the cards with arrows to indicate the flow of thinking, tap the blue symbol at the bottom of a card and drag an arrow to another card.



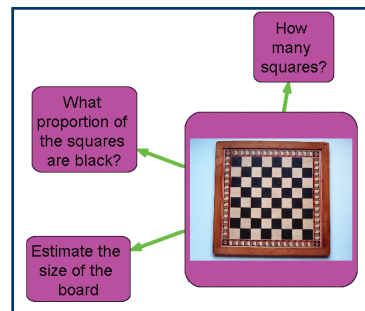
Ideas for follow up work

The simple approach suggested can be used to develop linked ideas maps for a range of contexts.

Here are some other starting points:

- $x = 5$
- volume = 45 cm^3
- a picture prompt to encourage pupils to generate their own mathematical questions for future exploration. For example, the Chessboard photograph from Richard Phillips' 'Problem Pictures CD-ROM resource (available from www.problempictures.co.uk)
- a topic, such as fractions, as a means of assessing pupils' prior experiences

Chessboard Example



The cards can also become hyperlinks to websites and other software. This is a great way to plan lessons with a wide range of linked resources. There is more guidance of this in "Exciting ICT in Maths" by Alison Clark-Jeavons.

Notes

Teacher notes:

- This SMART Notebook contains a SMART Ideas file which you will find in the Attachments tab.
- You will need to have SMART Ideas software loaded on your computer to be able to open this file.
- SMART Ideas is available free to all SMART Board users.
- Download the software from www.smartboard.co.uk

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You can modify the "Answer is 36.notebook" file in any way you like. If you do so, then save it with a different name in case you want to access the original again at some point.

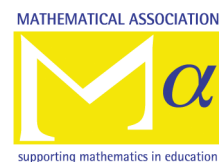
Resources

Caviglioli, O. and Harris, I., (2000) Accelerated Learning through visible thinking Stafford: Network Educational Press

Caviglioli, O. and Harris, I., (2003) Think it – Map it Stafford: Network Educational Press

Clark-Jeavons, A (2005) Exciting ICT in Maths Stafford: Network Educational Press

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