

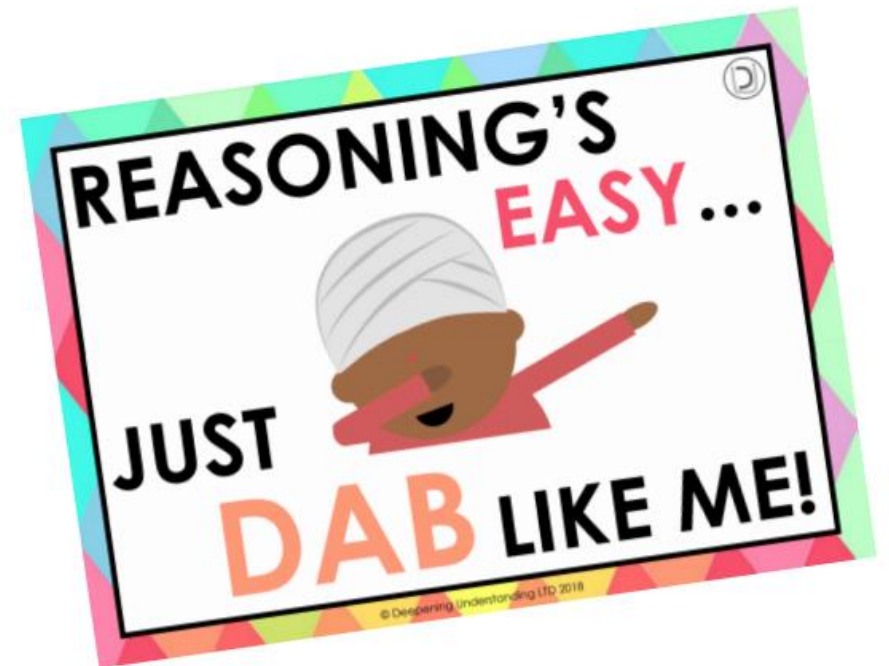
04.01.21

Using DAB to reason.



Get ready to DAB
like me!

You will need a whiteboard and a pen!



D = Decide

In this step we work out the answer.

True or False?

If I count in 100s from zero, all of the numbers will be even.
Convince me.

Is this true or false?

A = Assess

- Now, we use the question to write the answer.

True or False?

If I count in 100s from zero, all of the numbers will be even.
Convince me.

True, all numbers will be even if you start from 0 and count in 100s.

B = Back it up!

Here we must use evidence to prove it!

True or False?

If I count in 100s from zero, all of the numbers will be even.
Convince me.

All of the numbers would end in 0 and if a number ends in 0, it is even.

Decide: Work out the answer

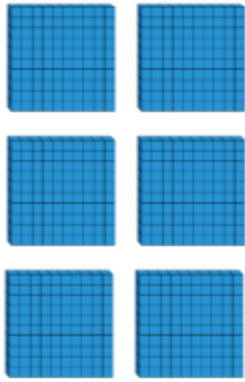
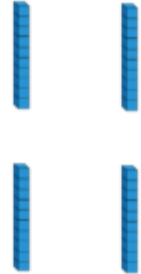

Assess: Use the question to write the answer

Eva is ____ correct. The place value grid shows ____.

Back it up:

The number has ____ hundreds,
____ tens and ____ ones.



| Hundreds | Tens | Ones |
|---|---|---|
|  |  |  |

Eva



The place value grid shows the number 467

Is Eva correct? Explain your reasoning.

Decide: Work out the answer

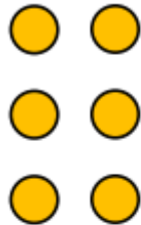
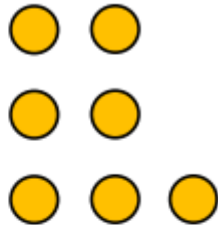
Assess: Use the question to write the answer

_____ is correct, the place value chart shows _____.

Back it up:

The number has _____ hundreds, _____ tens and _____ ones. If it was _____ it would have _____ tens.



| 100s | 10s | 1s |
|---|-----|---|
|  | |  |

Dora



The place value chart shows 607

Jack



I think it shows 670

Who is correct? Explain your reasoning.

Decide: Work out the answer

Assess: Use the question to write the answer

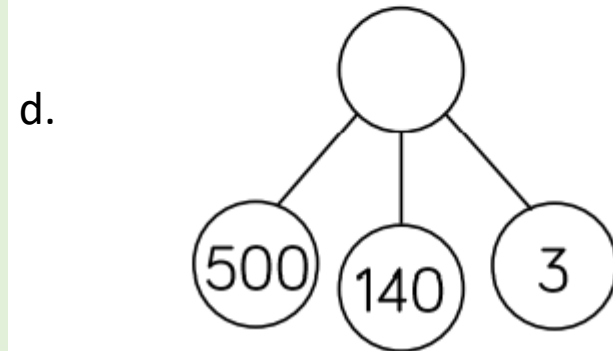
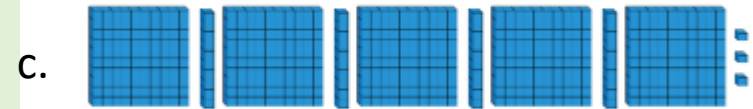
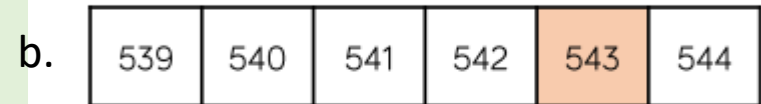
____ is the odd one out.

Back it up:

Images _____, _____ and _____ all show _____ but image _____ shows _____.



Which image is the odd one out?



Explain why.

Odd One Out

Which is the odd one out?

Explain why.

$$\begin{array}{|c|c|} \hline \blacksquare & \blacksquare \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|c|c|} \hline \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \blacksquare & \blacksquare \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|c|} \hline \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}$$

$$\begin{array}{|c|c|c|} \hline \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|} \hline \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}$$

True or False?

These four calculations have the same answer.

$$1 + 4 + 2$$

$$4 + 2 + 1$$

$$2 + 4 + 1$$

$$4 + 1 + 2$$

Always, Sometimes, Never



I am thinking of a two-digit number, if I add ones to it, I will only need to change the ones digit.

Explain your answer.

Decide: Sometimes

Assess: The statement is sometimes true.

Back it up: if the ones total 10 or more, you will need to exchange. In the calculation $45 + 2 = 47$, only the ones changed, however $29 + 4 = 33$, both the tens and the ones changed.

Alex thinks the chart shows $456 - 4$
Do you agree?

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

Explain why.

Odd One Out

Which is the odd one out?

Explain why.

$$\begin{array}{|c|c|} \hline \text{■} & \text{■} \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|c|c|} \hline \text{■} & \text{■} & \text{■} & \text{■} & \text{■} & \text{■} & \text{■} & \text{■} \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \text{■} & \text{■} \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|c|} \hline \text{■} & \text{■} & \text{■} & \text{■} & \text{■} & \text{■} & \text{■} \\ \hline \end{array}$$

$$\begin{array}{|c|c|c|} \hline \text{■} & \text{■} & \text{■} \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|} \hline \text{■} & \text{■} & \text{■} & \text{■} & \text{■} & \text{■} \\ \hline \end{array}$$

True or False?

These four calculations have the same answer.

$$1 + 4 + 2$$

$$4 + 2 + 1$$

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$$4 + 1 + 2$$

Always, Sometimes, Never



I am thinking of a two-digit number, if I add ones to it, I will only need to change the ones digit.

Explain your answer.

Decide:

Assess: I disagree. The chart does not show $456 - 4$.

Back it up: Alex has subtracted 4 counters from the tens column, not the ones. Therefore, the chart shows $456 - 40$, not $456 - 4$.

Alex thinks the chart shows $456 - 4$
Do you agree?

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

Explain why.

Odd One Out

Which is the odd one out?

Explain why.

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|c|} \hline \square & \square & \square & \square & \square & \square & \square & \square \\ \hline \end{array}$$

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|c|} \hline \square & \square & \square & \square & \square & \square \\ \hline \end{array}$$

$$\begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \end{array} + \begin{array}{|c|c|c|c|c|} \hline \square & \square & \square & \square & \square \\ \hline \end{array}$$

Always, Sometimes, Never



I am thinking of a two-digit number, if I add ones to it, I will only need to change the ones digit.

Explain your answer.

Decide: True

Assess: Do these calculations have the same answer?

Back it up:

Each of these calculations adds up to _____. Also, all of the digits are the same just in a different order.

True or False?

These four calculations have the same answer.

$$1 + 4 + 2$$

$$4 + 2 + 1$$

$$2 + 4 + 1$$

$$4 + 1 + 2$$

Alex thinks the chart shows $456 - 4$
Do you agree?

| Hundreds | Tens | Ones |
|----------|------|------|
| | | |

Explain why.

Always, Sometimes, Never

When 7 and 5 are added together in the ones column, the digit in the ones column of the answer will always be 2

What other digits would always give a 2 in the ones column? Prove it.

Spot the Mistake



Amir

$589 - 70$ is equal to 582



Alex

$306 + 300 = 906 - 300$

Is she correct?

Explain how you know.

Mo is counting back to solve $35 - 7$

He counts

35, 34, 33, 32, 31, 30, 29

Is Mo correct?

Explain your answer.

Which is the odd one out? Why?

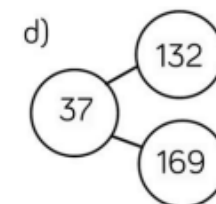
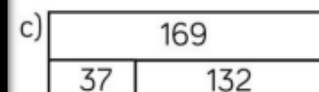
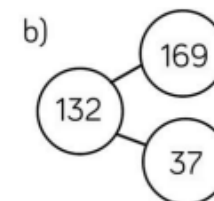
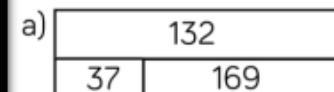
$$336 + 80$$

$$453 + 60$$

$$347 + 70$$

$$285 + 80$$

Eva has 169 sweets in a jar.
She gives 37 sweets to Mo.
Which model represents this problem?



Always, Sometimes, Never

When 7 and 5 are added together in the ones column, the digit in the ones column of the answer will always be 2

What other digits would always give a 2 in the ones column? Prove it.

D= Always.

A= It is always true, when 7 and 5 are added together the digit in the ones column will be 2.

B= $7 + 5 = 12$ and 12 ends in a 2. Some other examples are $17 + 5 = 22$, $177 + 55 = 232$.

Mo is counting back to solve $35 - 7$

He counts

35, 34, 33, 32, 31, 30, 29

Is Mo correct?

D= Incorrect.

A= Mo is incorrect $35 - 7$ is not 29.

B= Mo has included 35 when counting backwards. $35 - 7$ is actually 28.

D=

A= $589 - 70$ is not equal to 582.

B= $589 - 70 = 519$.

Amir has taken away 7 instead of 70.

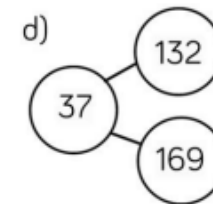
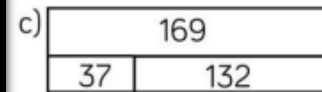
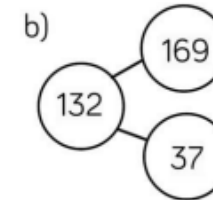
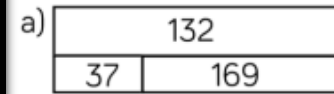
Spot the Mistake



Amir

$589 - 70$ is equal to 582

Eva has 169 sweets in a jar.
She gives 37 sweets to Mo.
Which model represents this problem?



D=

A= Model c represents $169 - 37 = 132$.

B= Model a is incorrect as $132 - 37$ is not 169. Model b shows the same as model a and model c is wrong again as $132 + 169$ does not equal 37.

Which is the odd one out? Why?

$$336 + 80$$

$$453 + 60$$

$$347 + 70$$

$$285 + 80$$

D= $285 + 80$

A= $285 + 80$ is the odd one out.

B= All of the other calculations have 11 tens.

| | |
|---|---|
| D | (Remember, this stage is just you working it out) |
| A | |
| B | |

| | |
|---|---|
| D | (Remember, this stage is just you working it out) |
| A | |
| B | |

| | |
|---|---|
| D | (Remember, this stage is just you working it out) |
| A | |
| B | |