$$+\ 0.2$$

$$3.2 + 2.8 = 3 + 3$$

$$-\ 0.2$$

$$+\ 0.18$$

$$3.18 + 2.82 = 3 + 3$$

$$-\ 0.18$$

Using these strategies, can you find more number sentences which have the same total as $3 + 3$

Using the digits 0 – 9 only once in each of the spaces above, what is:

- The largest sum possible
- The smallest sum possible

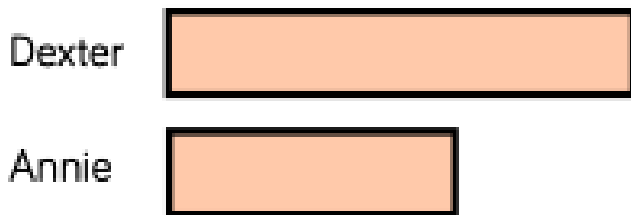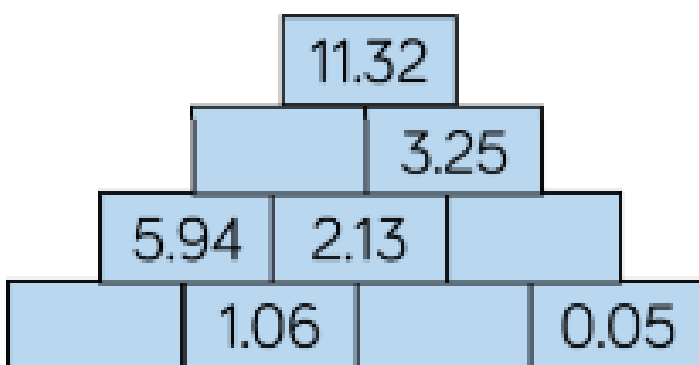s there more than one way of creating each total?

Dexter and Annie have some money.
Dexter has £3.45 more than Annie.

They have £12.45 altogether.

How much money does Annie have?

Dexter

Annie

In this number pyramid, each number is calculated by adding the two numbers underneath.

11.32	
5.94	2.13
1.06	

3.25

0.05

Eva is trying to find the answer to

$4.144 + 1.4$

Here is her working out.

$$
\begin{array}{r}
4 \,.\, 1\,4\,4 \\
+ \quad\quad 1\,.\, 4 \\
\hline
4 \,.\, 2\,4\,8 \\
\hline
\end{array}
$$

Can you spot and explain her error?

Work out the correct answer.

Place the calculations in the correct column in the table.

$9.99 + 0.1$ $9.99 + 1$

$9.99 + 0.001$ $9.99 + 0.01$

Some calculations might need to go in more than one place.

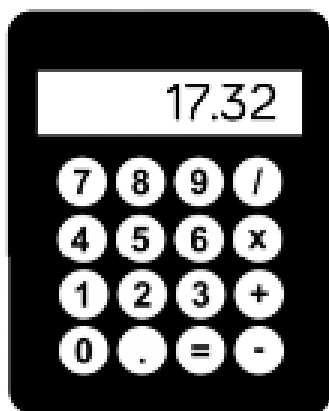| No exchange	Exchange in the ones column	Exchange in the tenths column	Exchange in the hundredths column	Exchange in the thousandths column

Add 2 more calculations to each column.

If there are 5 hundredths and I subtract nothing from it then there are still 5 hundredths.

$$
\begin{array}{r}
4\,.\,9 \\
-\ 3\,.\,8\,5 \\
\hline
1\,.\,1\,5 \\
\hline
\end{array}
$$

Do you agree with Whitney?
Explain your answer.

17.32

Teddy used a calculator to solve:
31.4 − 1.408

When he looked at his answer of 17.32
he realised he'd made a mistake.

He had typed all the correct digits in.

Can you spot his mistake?
What should the correct answer be?

$+ 0.2$

$$3.2 + 2.8 = 3 + 3$$

$- 0.2$

$+ 0.18$

$$3.18 + 2.82 = 3 + 3$$

$- 0.18$

Using these strategies, can you find more number sentences which have the same total as $3 + 3$

Children may find a range of answers. The important teaching point is to highlight that you have added the same to one number as you have taken away from the other.

$+$

Using the digits 0 – 9 only once in each of the spaces above, what is:
- The largest sum possible
- The smallest sum possible

Is there more than one way of creating each total?

Largest

$9.75 + 8.64$

$9.65 + 8.74$

$9.64 + 8.75$

$9.74 + 8.65$

Smallest

$0.24 + 1.35$

$0.25 + 1.34$

$0.34 + 1.25$

$0.35 + 1.24$

Dexter and Annie have some money.
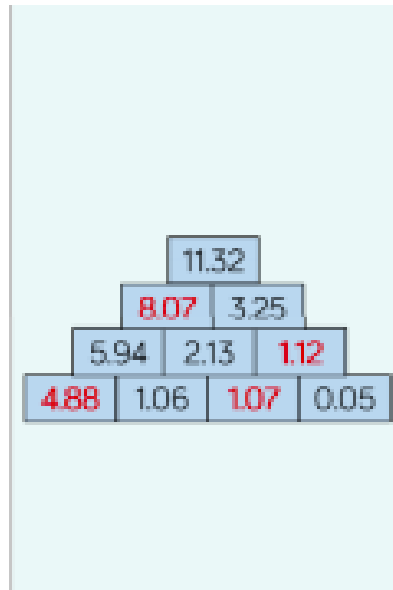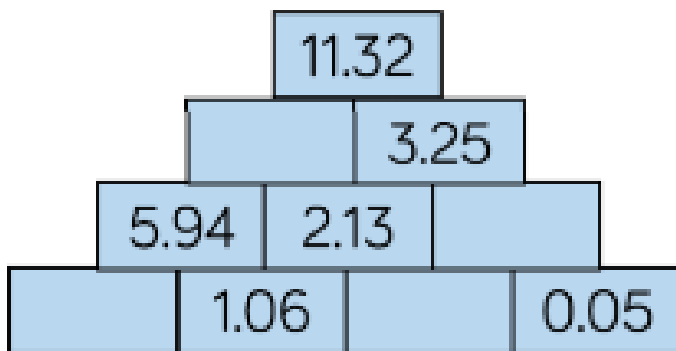Dexter has £3.45 more than Annie.

They have £12.45 altogether.

How much money does Annie have?

Annie has £4.50

Dexter

Annie

In this number pyramid, each number is calculated by adding the two numbers underneath.

| 11.32 |
| 3.25 |
| 5.94 | 2.13 |
| 1.06 | | 0.05 |

	11.32		
	8.07	3.25	
5.94	2.13	1.12	
4.88	1.06	1.07	0.05

Eva is trying to find the answer to

$4.144 + 1.4$

Here is her working out.

$$
\begin{array}{r}
4\;.\;1\;4\;4 \\
+\qquad 1\;.\;4 \\
\hline
4\;.\;2\;4\;8 \\
\hline
\end{array}
$$

Can you spot and explain her error?

Work out the correct answer.

The digits are lined up incorrectly.

Eva needs to line up the decimal point.

The correct answer is 5.544

Place the calculations in the correct column in the table.

$9.99 + 0.1$	$9.99 + 1$

$9.99 + 0.001$	$9.99 + 0.01$

Some calculations might need to go in more than one place.

No exchange	Exchange in the ones column	Exchange in the tenths column	Exchange in the hundredths column	Exchange in the thousandths column

Add 2 more calculations to each column.

No exchange:

$9.99 + 0.001$

Exchange in the ones column:

$9.99 + 1$

$9.99 + 0.1$

$9.99 + 0.01$

Exchange in the tenths column:

$9.99 + 0.1$

$9.99 + 0.01$

Exchange in the hundredths column:

$9.99 + 0.01$

If there are 5 hundredths and I subtract nothing from it then there are still 5 hundredths.

$$4 \, . \, 9$$
$$- \, 3 \, . \, 8 \, 5$$
$$\overline{1 \, . \, 1 \, 5}$$

Do you agree with Whitney?
Explain your answer.

Whitney is not correct. She needs to use zero as a place value holder in the hundredths column of 4.9 and then exchange.

Encourage children to explore more efficient mental strategies as well as correcting the formal method.

The correct answer is 1.05
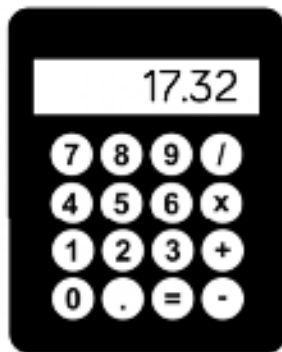
17.32

Teddy used a calculator to solve:
31.4 − 1.408

When he looked at his answer of 17.32 he realised he'd made a mistake.

He had typed all the correct digits in.

Can you spot his mistake?
What should the correct answer be?

Teddy placed the decimal point after the 4 making 14.08 instead of 1.408

The correct answer is 29.992