## Challenge Cards - Related facts

Reasoning and problem solving cards:

Use the numbers to create a bar model.


List the related facts:
$\qquad$
$\qquad$ $+$ $\qquad$ $=$ $\qquad$
$\qquad$ - $\qquad$ $=$ $\qquad$
$\qquad$ = $\qquad$

Colour the incorrect calculations.

| $8+9=17$ | $8-9=17$ | $9+8=17$ |
| :--- | :---: | :---: |
| $9-8=17$ | $17-9=8$ | $17+8=9$ |

Now, draw a bar model to represent the correct calculations.


Is Jack correct?
If not, what mistake might Jack have made and what is the correct answer?

Use the number frames to create a bar model.


List the related facts:
$\qquad$ $+\ldots=$ $\qquad$
$\qquad$ $+$ $\qquad$
$\qquad$
$\qquad$
$\qquad$ $=$ $\qquad$
$\qquad$ - $\qquad$ $=$ $\qquad$

Circle the incorrect calculations.


Represent the correct calculations on a bar model and part-whole diagram.


The bar model shows $9-5=14$

| 14 |  |
| :---: | :---: |
| 9 | 5 |

True or false? Explain your answer. What other related facts can you find?

## Challenge Cards - Related facts

Reasoning and problem solving cards:

Use the numbers to create a bar model.


List the related facts:

$$
\begin{aligned}
& 8+3=\frac{11}{3} \\
& \frac{3}{11}-\frac{8}{3}=\frac{11}{3} \\
& 11-3=8
\end{aligned}
$$

Colour the incorrect calculations.

| $8+9=17$ | $8-9=17$ | $9+8=17$ |
| :--- | :---: | :---: |
| $9-8=17$ | $17-9=8$ | $17+8=9$ |

Now, draw a bar model to represent the correct calculations.

| 17 |  |
| :---: | :---: |
| 9 or 8 | 8 or 9 |


| The missing number <br> is 17. |  |
| :---: | :---: |
| $?$ | 4 |

Is Jack correct?
If not, what mistake might Jack have made and what is the correct answer?
No. Jack may have added the 13 and 4 to give him 17. The answer is 9 .

Use the number frames to make a bar model.


List the related facts:

$$
\begin{aligned}
& 6+5=\frac{11}{5} \\
& \frac{5}{11}+6=\frac{11}{5}=\frac{5}{11}-5=6
\end{aligned}
$$

Circle the incorrect calculations.


Represent the correct calculations on a bar model and part-whole diagram.


The bar model shows

$$
9-5=14
$$

| 14 |  |
| :---: | :---: |
| 9 | 5 |

False, it shows $9+5=14$.
Related facts: $5+9=14,14-9=5,14-5=9$.
True or false? Explain your answer.
What other related facts can you find?

