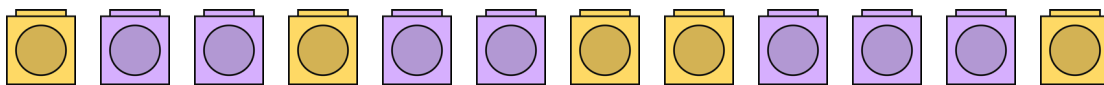


# Fact families



Use equipment to help you create fact families.

a



$$\underline{5} + \underline{7} = \underline{12}$$

$$\underline{12} - \underline{5} = \underline{7}$$

$$\underline{7} + \underline{5} = \underline{12}$$

$$\underline{12} - \underline{7} = \underline{5}$$

b



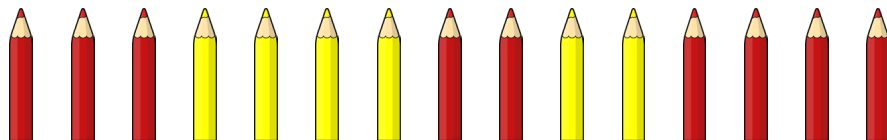
$$\underline{6} + \underline{8} = \underline{14}$$

$$\underline{14} - \underline{6} = \underline{8}$$

$$\underline{8} + \underline{6} = \underline{14}$$

$$\underline{14} - \underline{8} = \underline{6}$$

c



$$\underline{9} + \underline{6} = \underline{15}$$

$$\underline{15} - \underline{9} = \underline{6}$$

$$\underline{6} + \underline{9} = \underline{15}$$

$$\underline{15} - \underline{6} = \underline{9}$$

d



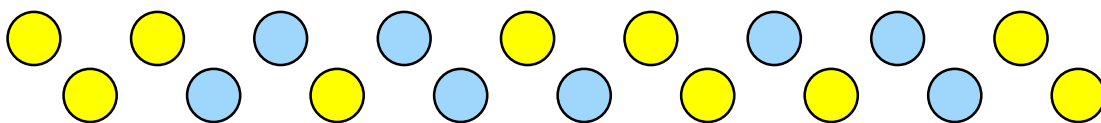
$$\underline{5} + \underline{8} = \underline{13}$$

$$\underline{13} - \underline{5} = \underline{8}$$

$$\underline{8} + \underline{5} = \underline{13}$$

$$\underline{13} - \underline{8} = \underline{5}$$

e



$$\underline{10} + \underline{8} = \underline{18}$$

$$\underline{18} - \underline{10} = \underline{8}$$

$$\underline{8} + \underline{10} = \underline{18}$$

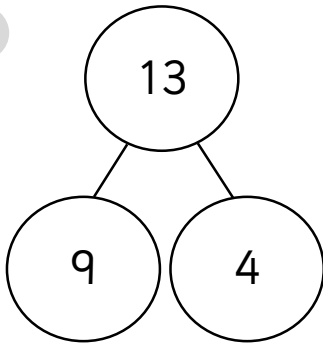
$$\underline{18} - \underline{8} = \underline{10}$$

# Fact families



Complete the part-whole models and write the associated fact families.

a



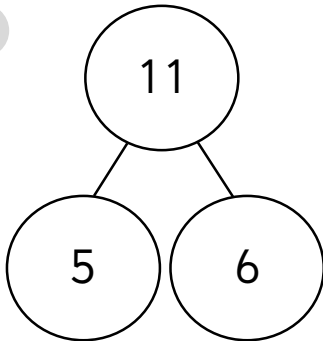
$$\underline{9} + \underline{4} = \underline{13}$$

$$\underline{13} - \underline{9} = \underline{4}$$

$$\underline{4} + \underline{9} = \underline{13}$$

$$\underline{13} - \underline{4} = \underline{9}$$

b



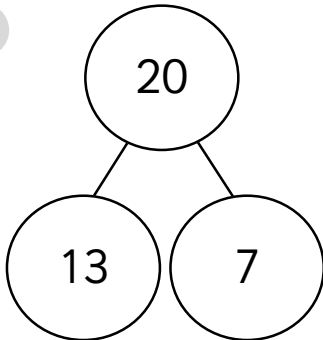
$$\underline{5} + \underline{6} = \underline{11}$$

$$\underline{11} - \underline{5} = \underline{6}$$

$$\underline{6} + \underline{5} = \underline{11}$$

$$\underline{11} - \underline{6} = \underline{5}$$

c



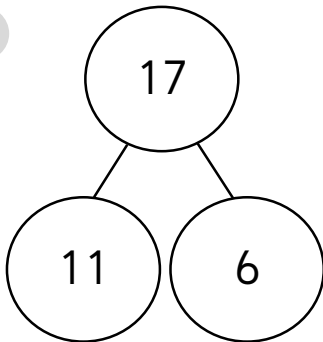
$$\underline{13} + \underline{7} = \underline{20}$$

$$\underline{20} - \underline{13} = \underline{7}$$

$$\underline{7} + \underline{13} = \underline{20}$$

$$\underline{20} - \underline{7} = \underline{13}$$

d



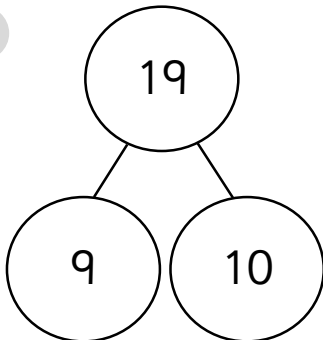
$$\underline{11} + \underline{6} = \underline{17}$$

$$\underline{17} - \underline{11} = \underline{6}$$

$$\underline{6} + \underline{11} = \underline{17}$$

$$\underline{17} - \underline{6} = \underline{11}$$

e



$$\underline{9} + \underline{10} = \underline{19}$$

$$\underline{19} - \underline{9} = \underline{10}$$

$$\underline{10} + \underline{9} = \underline{19}$$

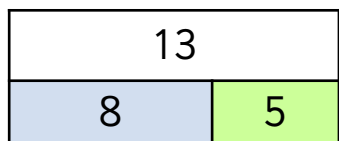
$$\underline{19} - \underline{10} = \underline{9}$$

# Fact families



Write all the associated number sentences in the fact families.

a



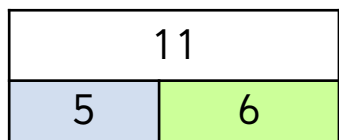
$$\underline{8} + \underline{5} = \underline{13}$$

$$\underline{13} - \underline{8} = \underline{5}$$

$$\underline{5} + \underline{8} = \underline{13}$$

$$\underline{13} - \underline{5} = \underline{8}$$

b



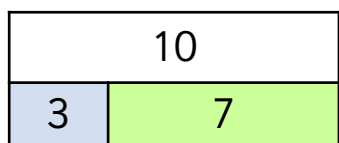
$$\underline{5} + \underline{6} = \underline{11}$$

$$\underline{11} - \underline{5} = \underline{6}$$

$$\underline{6} + \underline{5} = \underline{11}$$

$$\underline{11} - \underline{6} = \underline{5}$$

c



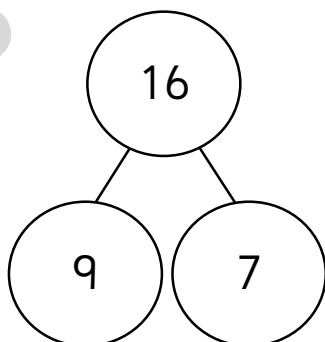
$$\underline{3} + \underline{7} = \underline{10}$$

$$\underline{10} - \underline{3} = \underline{7}$$

$$\underline{7} + \underline{3} = \underline{10}$$

$$\underline{10} - \underline{7} = \underline{3}$$

d



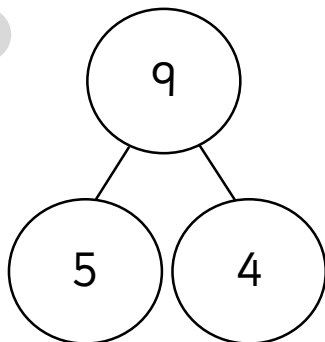
$$\underline{9} + \underline{7} = \underline{16}$$

$$\underline{16} - \underline{9} = \underline{7}$$

$$\underline{7} + \underline{9} = \underline{16}$$

$$\underline{16} - \underline{7} = \underline{9}$$

e



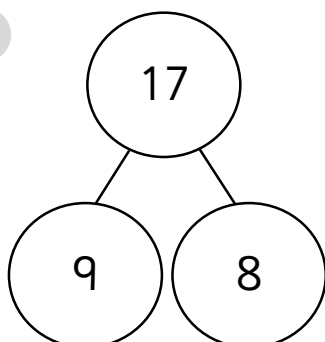
$$\underline{5} + \underline{4} = \underline{9}$$

$$\underline{9} - \underline{5} = \underline{4}$$

$$\underline{4} + \underline{5} = \underline{9}$$

$$\underline{9} - \underline{4} = \underline{5}$$

f



$$\underline{9} + \underline{8} = \underline{17}$$

$$\underline{17} - \underline{9} = \underline{8}$$

$$\underline{8} + \underline{9} = \underline{17}$$

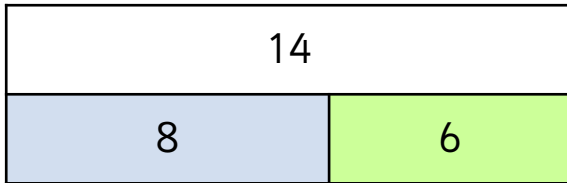
$$\underline{17} - \underline{8} = \underline{9}$$

# Fact families



Complete the bar models and write the associated number sentences in the fact families.

a



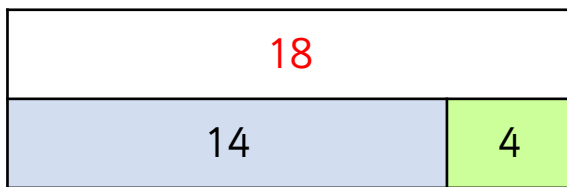
$$\underline{8} + \underline{6} = \underline{14}$$

$$\underline{6} + \underline{8} = \underline{14}$$

$$\underline{14} - \underline{8} = \underline{6}$$

$$\underline{14} - \underline{6} = \underline{8}$$

b



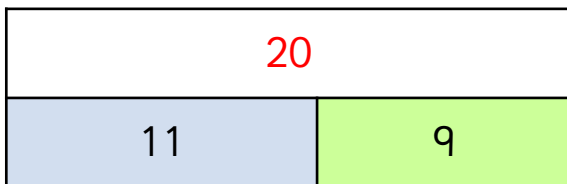
$$\underline{14} + \underline{4} = \underline{18}$$

$$\underline{4} + \underline{14} = \underline{18}$$

$$\underline{18} - \underline{14} = \underline{4}$$

$$\underline{18} - \underline{4} = \underline{14}$$

c



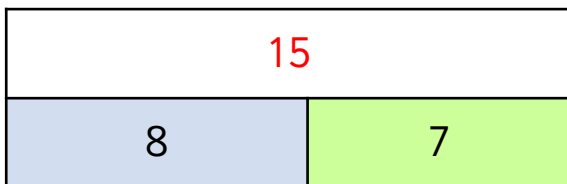
$$\underline{11} + \underline{9} = \underline{20}$$

$$\underline{9} + \underline{11} = \underline{20}$$

$$\underline{20} - \underline{11} = \underline{9}$$

$$\underline{20} - \underline{9} = \underline{11}$$

d



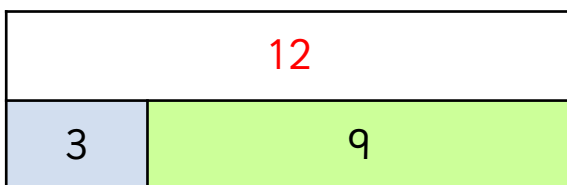
$$\underline{8} + \underline{7} = \underline{15}$$

$$\underline{7} + \underline{8} = \underline{15}$$

$$\underline{15} - \underline{8} = \underline{7}$$

$$\underline{15} - \underline{7} = \underline{8}$$

e



$$\underline{3} + \underline{9} = \underline{12}$$

$$\underline{9} + \underline{3} = \underline{12}$$

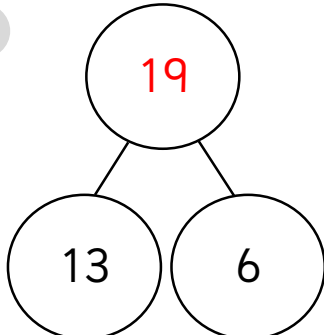
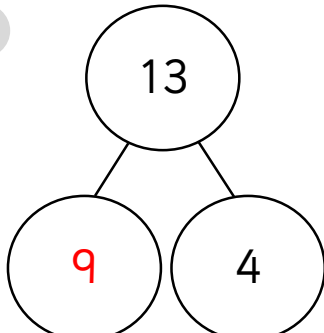
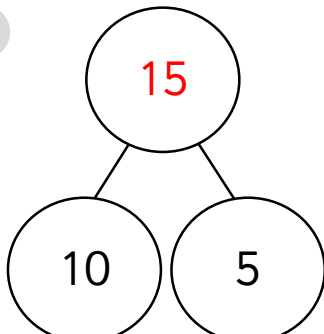
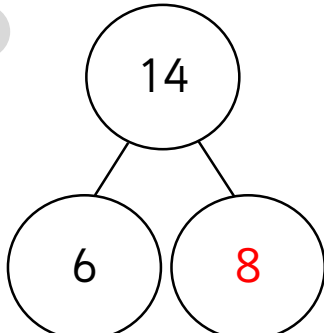
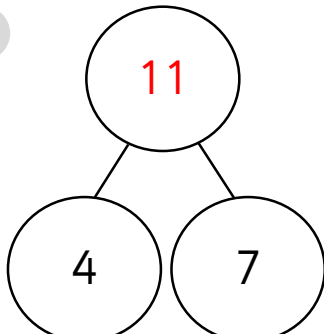
$$\underline{12} - \underline{3} = \underline{9}$$

$$\underline{12} - \underline{9} = \underline{3}$$

# Fact families



Complete the part-whole models and write the associated fact families.

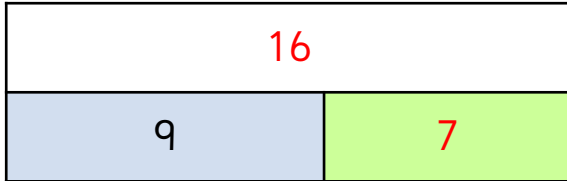
<p>a</p> 	$\underline{13} + \underline{6} = \underline{19}$ $\underline{6} + \underline{13} = \underline{19}$	$\underline{19} - \underline{13} = \underline{6}$ $\underline{19} - \underline{6} = \underline{13}$
<p>b</p> 	$\underline{9} + \underline{4} = \underline{13}$ $\underline{4} + \underline{9} = \underline{13}$	$\underline{13} - \underline{9} = \underline{4}$ $\underline{13} - \underline{4} = \underline{9}$
<p>c</p> 	$\underline{10} + \underline{5} = \underline{15}$ $\underline{5} + \underline{10} = \underline{15}$	$\underline{15} - \underline{10} = \underline{5}$ $\underline{15} - \underline{5} = \underline{10}$
<p>d</p> 	$\underline{6} + \underline{8} = \underline{14}$ $\underline{8} + \underline{6} = \underline{14}$	$\underline{14} - \underline{6} = \underline{8}$ $\underline{14} - \underline{8} = \underline{6}$
<p>e</p> 	$\underline{4} + \underline{7} = \underline{11}$ $\underline{7} + \underline{4} = \underline{11}$	$\underline{11} - \underline{4} = \underline{7}$ $\underline{11} - \underline{7} = \underline{4}$

# Fact families



Complete the bar models and write the associated number sentences in the fact families.

a



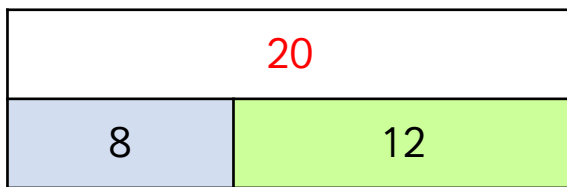
$$\underline{9} + \underline{7} = \underline{16}$$

$$\underline{7} + \underline{9} = \underline{16}$$

$$\underline{16} - \underline{9} = \underline{7}$$

$$\underline{16} - \underline{7} = \underline{9}$$

b



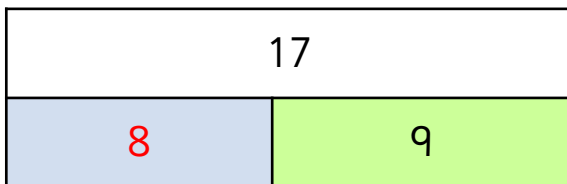
$$\underline{8} + \underline{12} = \underline{20}$$

$$\underline{12} + \underline{8} = \underline{20}$$

$$\underline{20} - \underline{8} = \underline{12}$$

$$\underline{20} - \underline{12} = \underline{8}$$

c



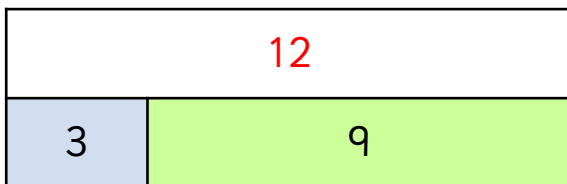
$$\underline{8} + \underline{9} = \underline{17}$$

$$\underline{9} + \underline{8} = \underline{17}$$

$$\underline{17} - \underline{8} = \underline{9}$$

$$\underline{17} - \underline{9} = \underline{8}$$

d



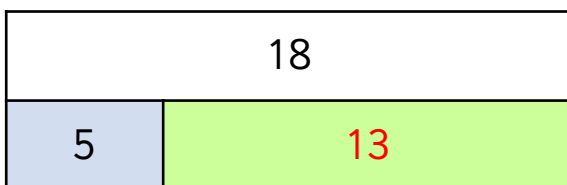
$$\underline{9} + \underline{3} = \underline{12}$$

$$\underline{3} + \underline{9} = \underline{12}$$

$$\underline{12} - \underline{9} = \underline{3}$$

$$\underline{12} - \underline{3} = \underline{9}$$

e



$$\underline{5} + \underline{13} = \underline{18}$$

$$\underline{13} + \underline{5} = \underline{18}$$

$$\underline{18} - \underline{5} = \underline{13}$$

$$\underline{18} - \underline{13} = \underline{5}$$

# Fact families



Problem solving and reasoning cards:

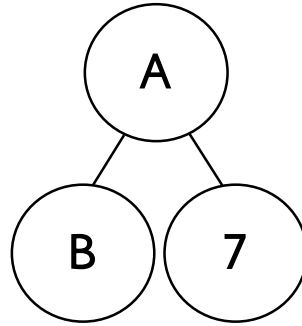
The fact family below is correct because all the numbers are related.

$3 + 5 = 8$
$5 + 3 = 8$
$3 - 8 = 5$
$5 - 8 = 3$

True or false?

False, the subtraction calculations are in the wrong order.

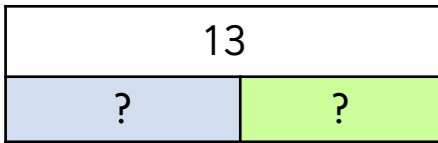
Here is an incomplete part-whole model. The total is greater than 10 but less than 16. What could the numbers A and B be?



List all possibilities.

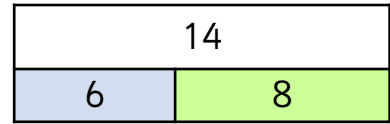
- 4 and 11,
- 5 and 12,
- 6 and 13
- 7 and 14
- 8 and 15.

Create your own fact family. How many different ways can it be completed?



\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_  
 \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_  
 \_\_\_\_\_ = \_\_\_\_\_ - \_\_\_\_\_  
 \_\_\_\_\_ = \_\_\_\_\_ - \_\_\_\_\_

Circle the representations that represent the bar model below.



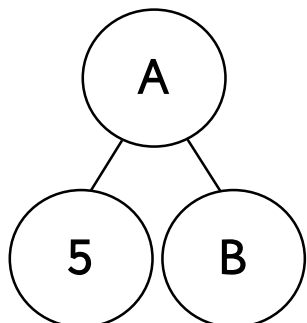
$14 = 6 + 8$

$8 - 6 = 14$

There are 8 sweets in a jar, 6 get eaten.

Here is an incomplete part-whole model. The total is greater than 9 but less than 14. What could the numbers A and B be?

List all possibilities.



- 5 and 10
- 6 and 11
- 7 and 12
- 8 and 13



Asha

All the facts are correct because the numbers are related.



Rob

Not all facts are correct.

- $5 + 4 = 9$
- $4 + 5 = 9$
- $9 = 5 - 4$
- $4 = 9 - 5$

Who do you agree with? Explain your answer.

Rob is correct.  
 $9 = 5 - 4$  is incorrect.