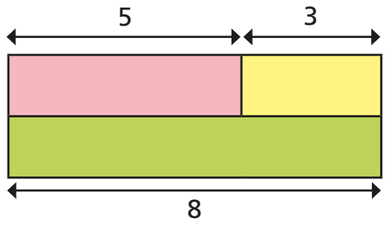
Understand and use fact families, numerically and algebraically

1 The bar model shows these facts:



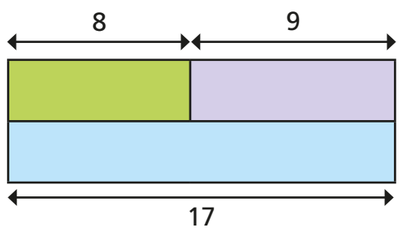
$5 + 3 = 8$

$8 - 3 = 5$

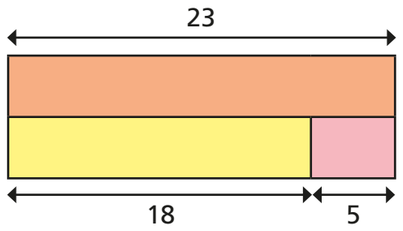
What other facts does it show?

2 Write the fact families for these bar models.

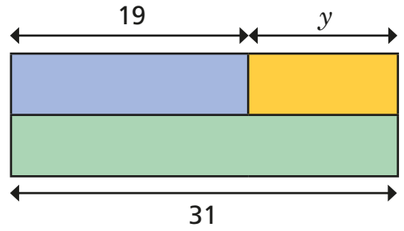
a)



b)



3 Annie is writing the fact family for this bar model.



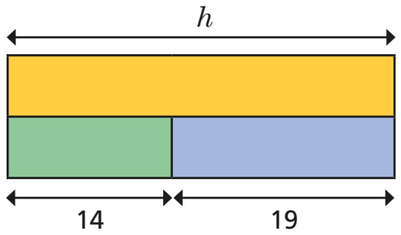
She writes $y = 19 + 31$

a) Explain why Annie is incorrect.

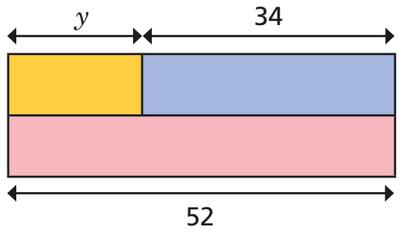
b) Write the fact family for this bar model.

4 Write the fact family for each bar model.

a)

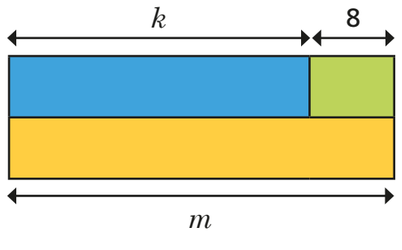


b)

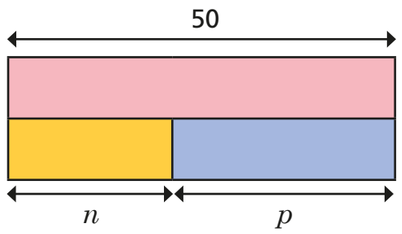


5 Write two addition facts and two subtraction facts for each bar model.

a)

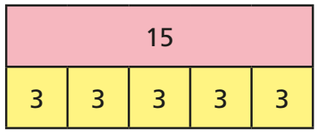


b)



6 Use the bar models to complete the facts.

a)



15 = 3 × ☐

15 = 5 × ☐

15 ÷ ☐ = ☐

15 ÷ ☐ = ☐

b)

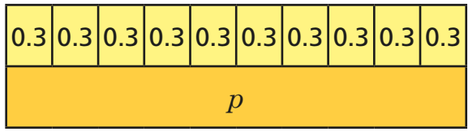
30 = ☐ × ☐

30 = ☐ × ☐

30 ÷ ☐ = ☐

30 ÷ ☐ = ☐

c)



☐ × ☐ = ☐

☐ × ☐ = ☐

☐ ÷ ☐ = ☐

☐ ÷ ☐ = ☐

7 Draw a bar model to represent each fact.

a) $51.6 = 82.3 - 30.7$

b) $g + 98 = 152$

c) $k = 23 \times 4$

d) $\frac{108}{6} = w$

What other related facts can you see from your bar models?