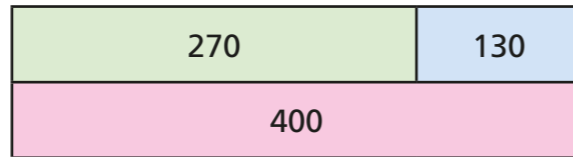


Use known number facts to derive other facts

1 Here is a bar model.
Use the bar model to work out the calculations.



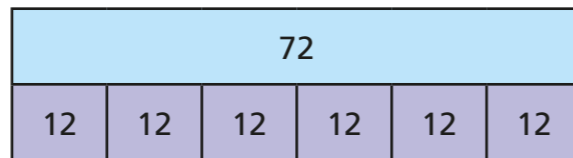
a) $270 + 130 = 400$

c) $400 - 270 = 130$

b) $130 + 270 = 400$

d) $400 - 130 = 270$

2 Here is a bar model.
Use the bar model to work out the calculations.



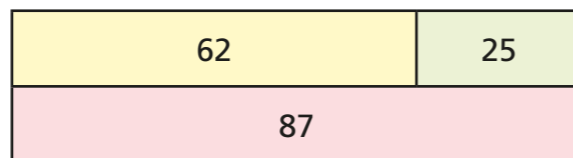
a) $12 \times 6 = 72$

c) $72 \div 6 = 12$

b) $6 \times 12 = 72$

d) $72 \div 12 = 6$

3 Here is another bar model.
Use the bar model to work out the calculations.



a) $62 + 25 = 87$

b) $870 - 250 = 620$

$620 + 250 = 870$

$870 - 620 = 250$

$6,200 + 2,500 = 8,700$

$8,700 - 6,200 = 2,500$

Discuss what you notice with a partner.

4 Here is a multiplication fact.

$23 \times 15 = 345$

a) Use the fact to explain why $230 \times 15 = 3,450$

$230 \times 15 = 23 \times 10 \times 15 = 23 \times 15 \times 10 = 345 \times 10 = 3,450$

b) Use the fact to explain why $230 \times 150 = 34,500$

$230 \times 150 = 23 \times 10 \times 15 \times 10 = 23 \times 15 \times 10 \times 10 = 345 \times 100 = 34,500$

5

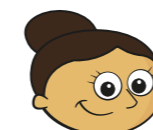


$272 + 187 = 459$

Teddy

Explain how each student can use Teddy's calculation to work out their problem.

a)



I want to work out $273 + 187$

$273 + 187 = 272 + 1 + 187$
 $= 272 + 187 + 1$
 $= 459 + 1 = 460$

b)



I want to work out $177 + 272$

$177 + 272 = 187 - 10 + 272$
 $= 272 + 187 - 10$
 $= 459 - 10 = 449$

c)



I want to work out
460 - 187

$$\begin{aligned} 460 - 187 &= 459 + 1 - 187 \\ &= 459 - 187 + 1 \\ &= 272 + 1 = 273 \end{aligned}$$

d) Use Teddy's calculations to work out these problems.

$2,720 + 1,870 = 4,590$

$269 + 187 = 456$

$274 + 185 = 459$

$469 - 297 = 172$

6

Here is a multiplication fact.

$17 \times 39 = 663$

Use the fact to work out the calculations.

a) $170 \times 39 = 6,630$

e) $1.7 \times 3.9 = 6.63$

b) $17 \times 390 = 6,630$

f) $663 \div 17 = 39$

c) $1.7 \times 39 = 66.3$

g) $66,300 \div 1.7 = 39,000$

d) $3.9 \times 17 = 66.3$

h) $66.3 \div 17 = 3.9$

7

Mo works out a multiplication fact on his calculator.

$36 \times 45 = 1620$

a) Circle any calculations that will give the same answer.

360×45

45×36

3.6×4.5

3.6×450

450×360

360×4.5

b) Write another related calculation that will give the same answer.

e.g. $0.36 \times 4,500$

8

Complete each calculation in three different ways.

$72 \times 11 = 792$

e.g.

a) $7.2 \times 110 = 792$

c) $792 \div 110 = 7.2$

$720 \times 1.1 = 792$

$7,920 \div 1,100 = 7.2$

$0.72 \times 1,100 = 792$

$79.2 \div 11 = 7.2$

b) $0.72 \times 11 = 7.92$

d) $792 \div 7.2 = 110$

$72 \times 0.11 = 7.92$

$79.2 \div 0.72 = 110$

$7.2 \times 1.1 = 7.92$

$7,920 \div 72 = 110$