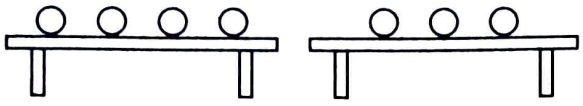
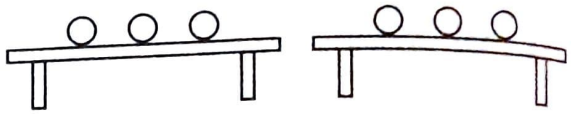
PA3-16 Equal and Not Equal

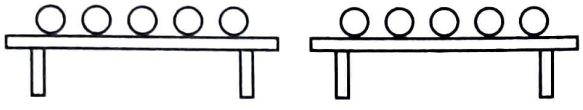
1. Write the number of balls on each table. Write = if the tables have the same number. Write ≠ if they do not have the same number.

a) 

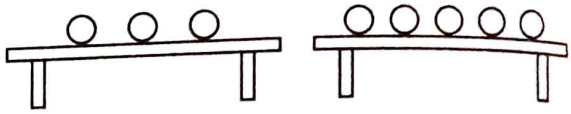
4 ☐ 3

b) 

____ ☐ ____

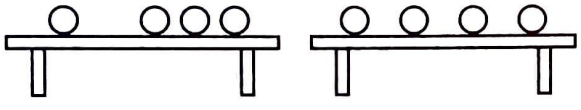
c) 

____ ☐ ____

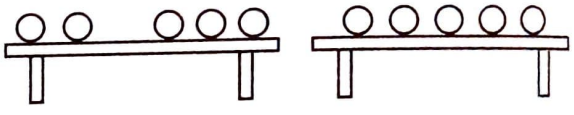
d) 

____ ☐ ____

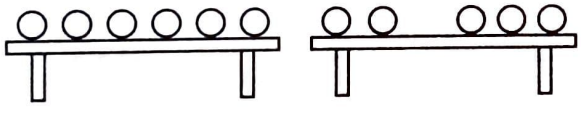
2. Write the number of balls. Write = or ≠ in the box.

a) 

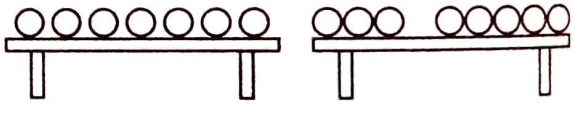
1 + 3 ☐ 4

b) 

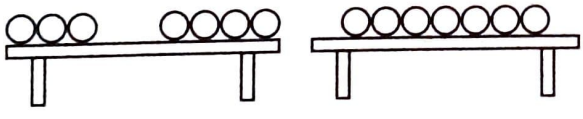
____ + ____ ☐ ____

c) 

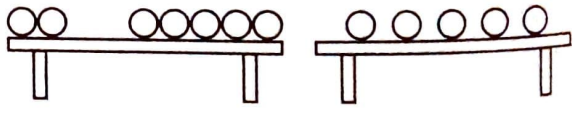
____ ☐ ____ + ____

d) 

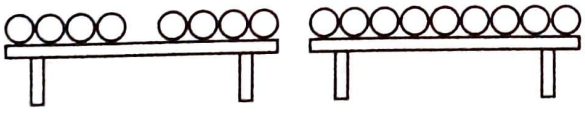
____ ☐ ____ + ____

e) 

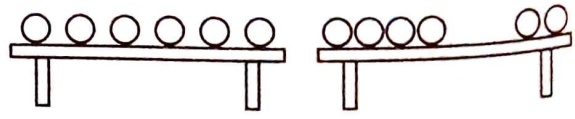
____ + ____ ☐ ____

f) 

____ + ____ ☐ ____

g) 

____ + ____ ☐ ____

h) 

____ ☐ ____ + ____

3. Circle the correct addition sentence.

a) $7 = 3 + 4$ $\quad 7 \neq 3 + 4$

b) $9 = 5 + 3$ $\quad 9 \neq 5 + 3$

c) $8 = 6 + 2$ $\quad 8 \neq 6 + 2$

d) $5 = 3 + 1$ $\quad 5 \neq 3 + 1$

e) $11 + 5 = 16$ $\quad 11 + 5 \neq 16$

f) $12 + 3 = 15$ $\quad 12 + 3 \neq 15$

An **equation** is a number sentence that has an **equal sign** (=).

$3 + 5 = 8$

↑

equal sign

The equal sign shows that the left side of the number sentence **has the same** value as the right side.

4. Circle the number sentences that are equations.

A. $5 + 7 \neq 13$ **B.** $6 < 9$ **C.** $15 - 2 = 13$

D. $4 = 32 \div 8$ **E.** $6 \times 5 > 15$ **F.** $14 \neq 12 + 3$

5. Write "T" if the equation is true. Write "F" if the equation is false.

a) $3 + 7 = 10$ *T* b) $9 + 4 = 12$ *F* c) $2 + 17 = 18$ _____

d) $6 - 2 = 4$ _____ e) $24 - 5 = 19$ _____ f) $25 - 13 = 11$ _____

g) $3 \times 9 = 27$ _____ h) $6 \times 7 = 42$ _____ i) $56 = 8 \times 8$ _____

j) $24 \div 4 = 8$ _____ k) $12 \div 3 = 4$ _____ l) $6 = 35 \div 5$ _____

m) $14 + 13 = 27$ _____ n) $9 \times 3 = 28$ _____ o) $9 = 45 \div 5$ _____

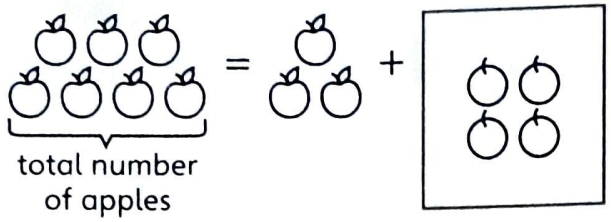
p) $18 - 12 = 7$ _____ q) $4 = 15 - 10$ _____ r) $8 = 80 \div 10$ _____

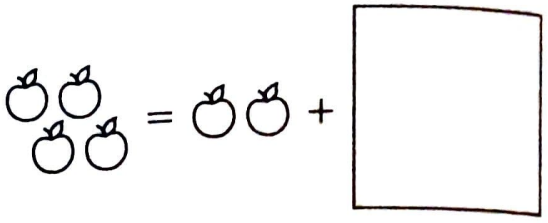
BONUS ▶

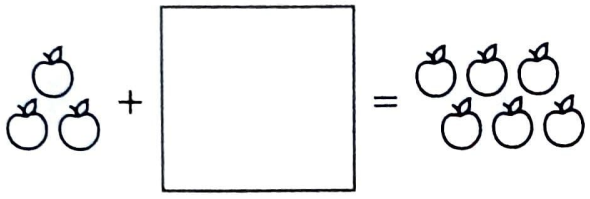
s) $2 + 4 = 3 \times 2$ _____ t) $5 + 6 = 14 - 2$ _____ u) $24 \div 6 = 10 - 6$ _____

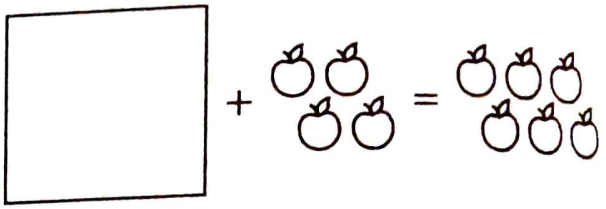
PA3-17 Addition Equations

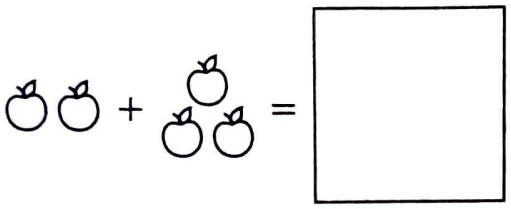
1. Some apples are inside the box and some are outside. Draw the missing apples in the box.

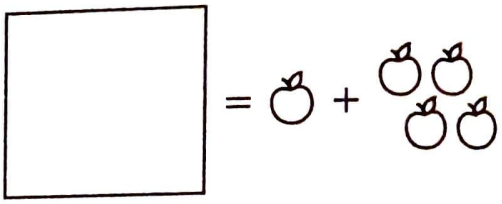
a) 

b) 

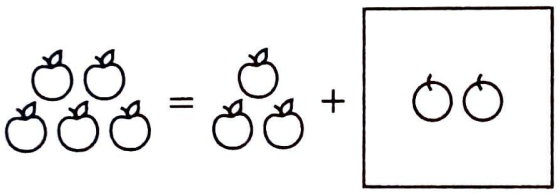
c) 

d) 

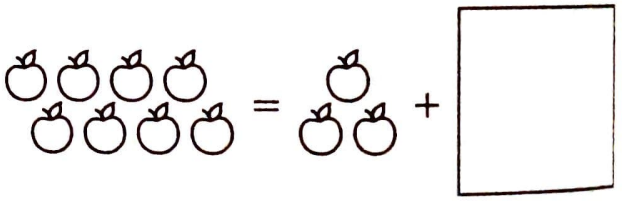
e) 

f) 

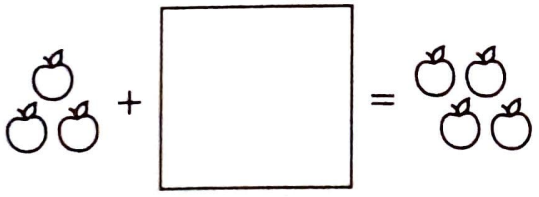
2. Draw the missing apples in the box. Then write the missing number in the smaller box.

a) 

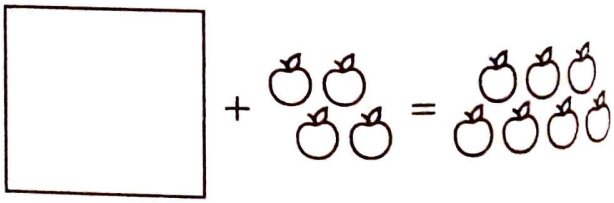
5 = 3 + 2

b) 

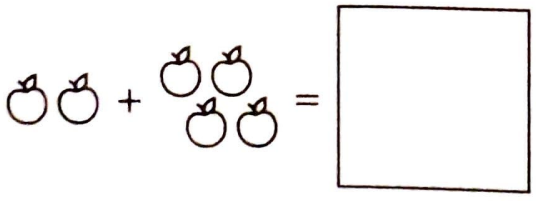
8 = 3 + ☐

c) 

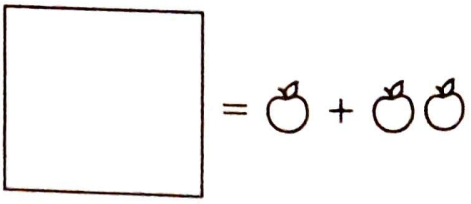
3 + ☐ = 4

d) 

☐ + 4 = 7

e) 

2 + 4 = ☐

f) 

☐ = 1 + 2

When you find the missing number in the equation, you **solve** it.

3. Draw a picture for the equation. Use your picture to solve the equation.

a) $5 + \square = 6$

b) $\square + 4 = 9$

c) $8 = \square + 3$

d) $\square = 4 + 4$

To solve $\square + 3 = 7$, Megan guesses the unknown number is 3.

Megan checks her guess. $\boxed{3} + 3 = 7$ is not true.

6 is too small. To make a bigger sum, she tries 4.

Megan checks her new guess. $\boxed{4} + 3 = 7$ is true, so the unknown number is 4.

4. Solve the equation by guessing and checking.

a) $\square + 3 = 4$

b) $2 + \square = 9$

c) $9 = \square + 4$

d) $10 = 6 + \square$

e) $5 + 7 = \square$

f) $\square = 7 + 6$

g) $15 = 9 + \square$

h) $\square + 8 = 16$

You can write 2 addition equations and 2 subtraction equations for this picture.

$3 + 4 = 7$ $\quad$ $4 + 3 = 7$ $\quad$ $7 - 3 = 4$ $\quad$ $7 - 4 = 3$

These equations make a **fact family**.

5. Write the fact family for the picture.

a) 

b) 

c) 

6. Draw a picture for the equation. Write the rest of the fact family.

a) $4 + 2 = 6$

$2 + 4 = 6,\ 6 - 2 = 4,$

$6 - 4 = 2$

b) $6 + 1 = 7$

c) $6 - 1 = 5$

d) $9 - 4 = 5$

Some circles are in a box. ○○○ ☐

There are 8 circles in total. Anton wants to find how many circles are in the box.

He writes the equation $3 + \square = 8$.

Anton subtracts to find the number of circles in the box: $8 - 3 = \boxed{5}$

○○○○○○○○

7. Draw a picture for the equation. Then write the subtraction to find the missing number.

a) $7 + \square = 9$

$9 - 7 = 2$

b) $3 + \square = 10$

c) $\square + 4 = 8$

d) $5 = \square + 1$

8. Write the subtraction equation to find the missing number.

a) $7 = 4 + \square$ $7 - 4 = 3$

b) $10 = \square + 3$

c) $\square + 6 = 11$

d) $10 + \square = 19$

e) $\square + 21 = 32$

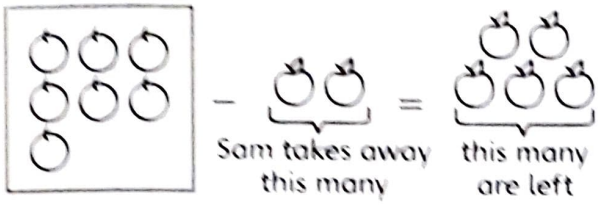
f) $42 + \square = 95$

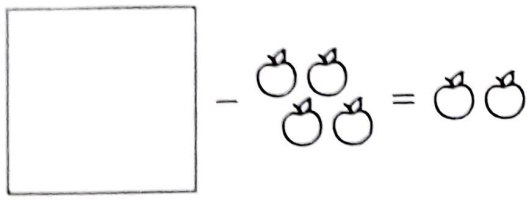
g) $69 = \square + 14$

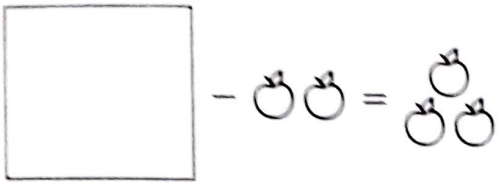
h) $80 = 36 + \square$

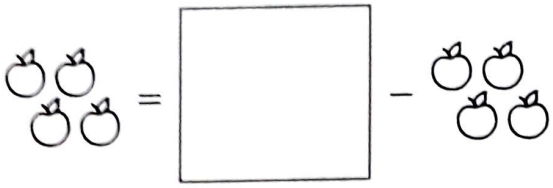
PA3-18 Subtraction Equations

1. Sam takes some apples from a box. Draw the apples that were in the box before.

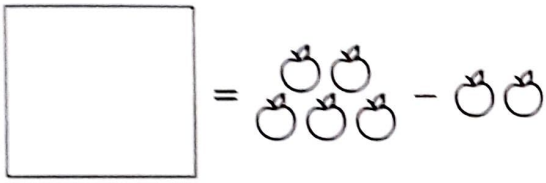
a) 

b) 

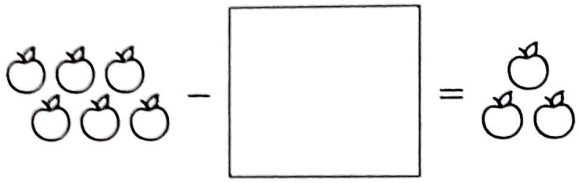
c) 

d) 

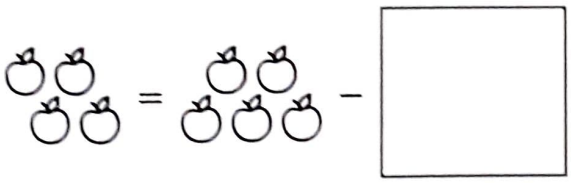
2. Draw the missing apples. Then write the missing number in the smaller box.

a) 

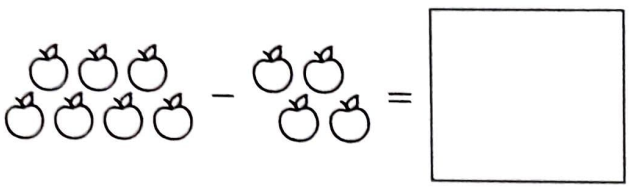
$\square = 5 - 2$

b) 

$6 - \square = 3$

c) 

$4 = 5 - \square$

d) 

$7 - 4 = \square$

3. Draw a picture for the equation. Use your picture to solve the equation.

a) $6 - \square = 1$

b) $3 = \square - 6$

4. Solve the equation by guessing and checking.

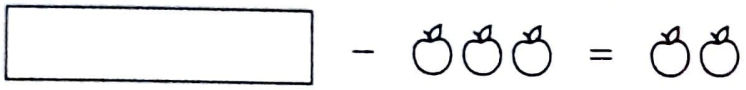
a) $\square - 2 = 2$ b) $3 = \square - 4$ c) $8 - 3 = \square$ d) $\square = 10 - 2$

e) $9 - \square = 2$ f) $3 = 10 - \square$ g) $8 = \square - 2$ h) $15 - 7 = \square$

i) $\square - 8 = 10$ j) $13 = \square - 4$ k) $28 - 13 = \square$ l) $7 = \square - 9$

m) $16 - \square = 8$ n) $8 = 15 - \square$ o) $8 = \square - 6$ p) $20 - \square = 20$

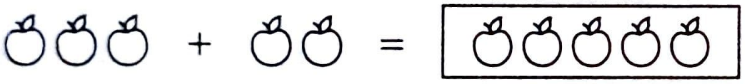
Lela takes 3 apples from a box. 2 apples are left in the box.



$\square - 3 = 2$

Lela adds the number of apples she took out and the number of apples left to find the number of apples that started in the box.

$3 + 2 = \boxed{5}$



5. Write an addition equation to find the number of apples that were in the box before.

a) $4 = \square - 3$ b) $\square - 1 = 8$ c) $10 = \square - 3$ d) $6 = \square - 4$

3 + 4 = 7

e) $\square - 6 = 6$ f) $\square - 9 = 4$ g) $9 = \square - 7$ h) $\square - 10 = 9$

i) $\square - 16 = 6$ j) $\square - 23 = 14$ k) $19 = \square - 27$ l) $\square - 10 = 75$

m) $\square - 21 = 32$ n) $\square - 42 = 40$ o) $61 = \square - 11$ p) $80 = \square - 50$

REMINDER ▶ You can write a fact family for this picture. 

$2 + 3 = 5, 3 + 2 = 5, 5 - 3 = 2, 5 - 2 = 3$

6. Write the rest of the equations in the fact family.

a) $6 - 2 = 4$, _____

b) $10 - 7 = 3$, _____

7. Write the other subtraction equation from the same fact family.

a) $11 - 3 = 8$ — *$11 - 8 = 3$*

b) $12 - 7 = 5$ — _____

c) $17 - 9 = 8$ — _____

To find the missing number in $7 - \square = 4$, use $7 - 4 = \square$.
We know $7 - 4 = 3$, so $7 - \boxed{3} = 4$.

8. Write the other subtraction equation from the same fact family.
Find the number in the box.

a) $7 - \square = 5$ — *$7 - 5$* $= \boxed{2}$

b) $9 - \square = 4$ — _____ $= \square$

c) $10 - \square = 2$ — _____ $= \square$

d) $12 - \square = 5$ — _____ $= \square$

e) $14 - \square = 6$ — _____ $= \square$

f) $17 - \square = 10$ — _____ $= \square$

g) $32 - \square = 25$

h) $26 = 54 - \square$

i) $17 = 97 - \square$

9. Solve the equation.

a) $\square - 33 = 32$

b) $42 - \square = 40$

c) $71 = \square - 14$

d) $80 = 90 - \square$

e) $\square = 36 - 28$

f) $78 - 29 = \square$

g) $34 = \square - 7$

h) $\square - 40 = 15$

i) $\square = 67 - 39$

BONUS ▶

j) $100 - \square = 51$

k) $71 = \square - 29$

l) $\square - 100 = 0$