

SUBTRACTION

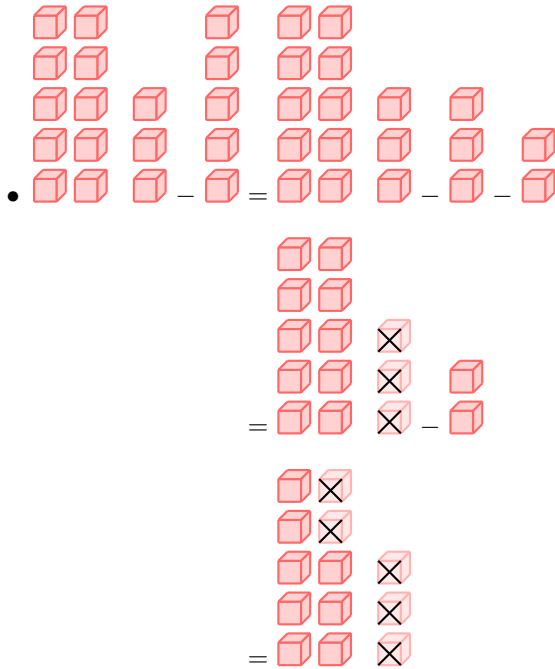
A WHAT IS SUBTRACTION?

A.1 SUBTRACTING NUMBER WITHIN 20

Ex 1:

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

Answer:

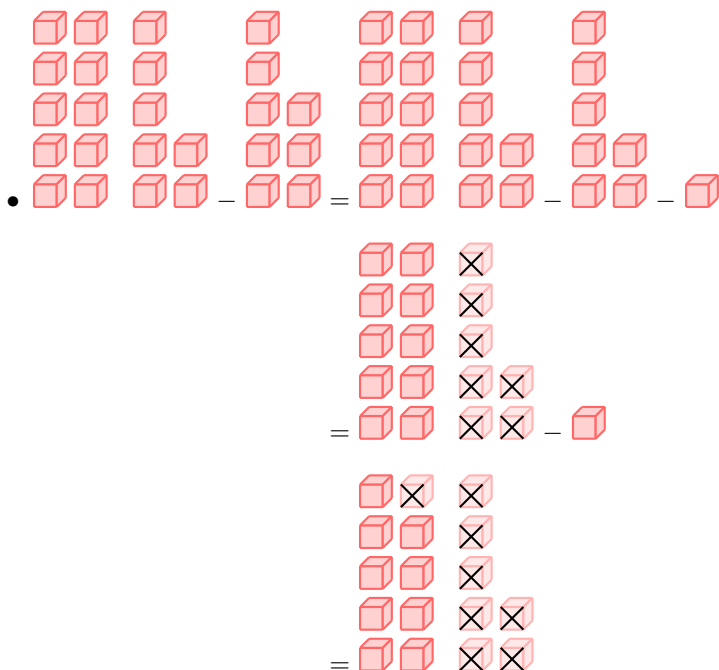


$$\begin{aligned} \bullet \quad 13 - 5 &= 13 - 3 - 2 \\ &= 10 - 2 \\ &= 8 \end{aligned}$$

Ex 2:

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

Answer:

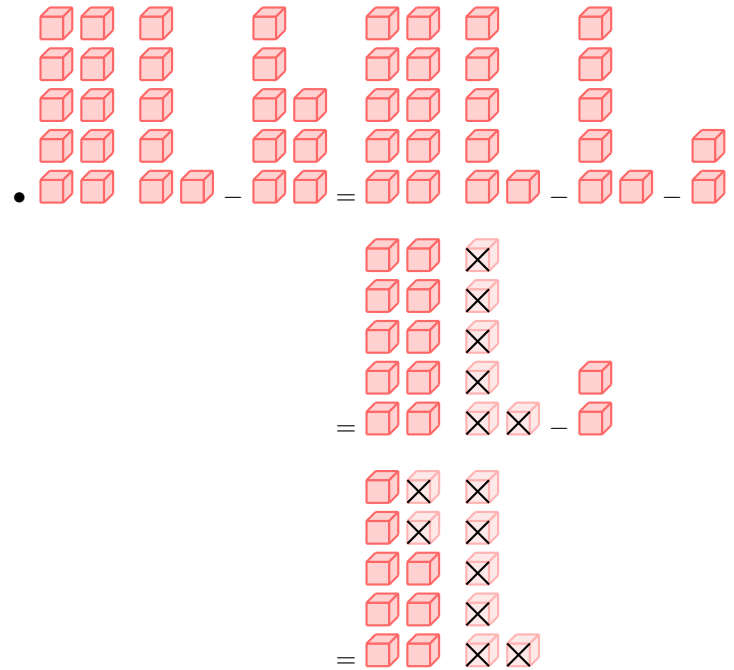


$$\begin{aligned} \bullet \quad 17 - 8 &= 17 - 7 - 1 \\ &= 10 - 1 \\ &= 9 \end{aligned}$$

Ex 3:

$$16 - 8 = \boxed{8}$$

Answer:

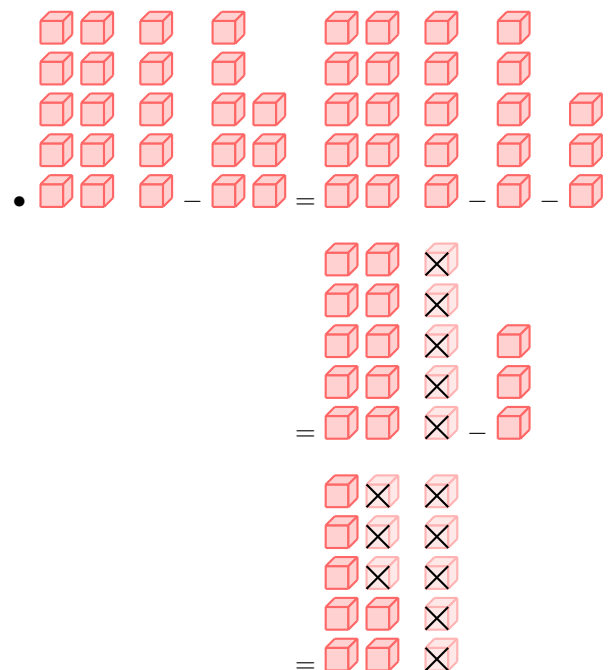


$$\begin{aligned} \bullet \quad 16 - 8 &= 16 - 6 - 2 \\ &= 10 - 2 \\ &= 8 \end{aligned}$$

Ex 4:

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

Answer:

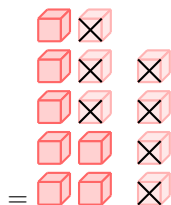
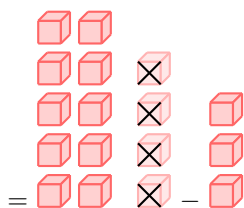
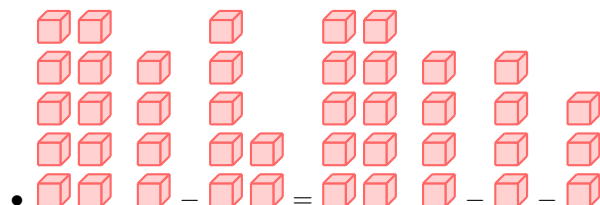


- $15 - 8 = 15 - 5 - 3$
 $= 10 - 3$
 $= 7$

Ex 5:

$$14 - 7 = \boxed{7}$$

Answer:

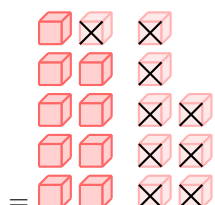
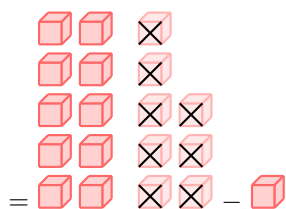
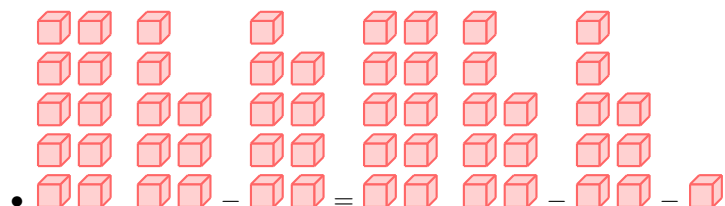


- $14 - 7 = 14 - 4 - 3$
 $= 10 - 3$
 $= 7$

Ex 6:

$$18 - 9 = \boxed{9}$$

Answer:

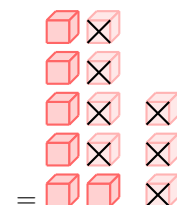
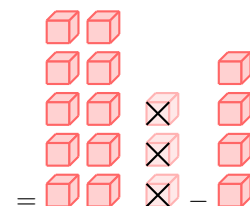
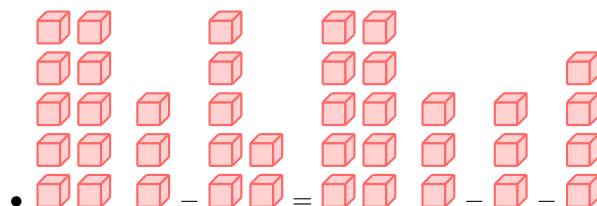


- $18 - 9 = 18 - 8 - 1$
 $= 10 - 1$
 $= 9$

Ex 7:

$$13 - 7 = \boxed{6}$$

Answer:

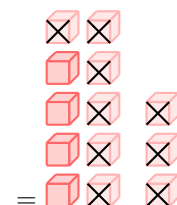
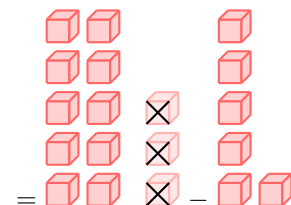
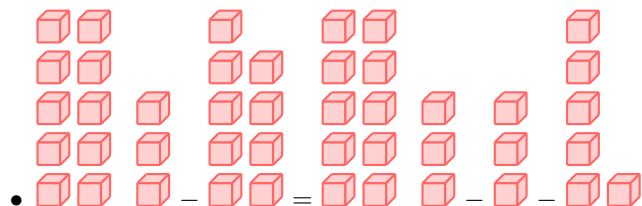


- $13 - 7 = 13 - 3 - 4$
 $= 10 - 4$
 $= 6$

Ex 8:

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

Answer:

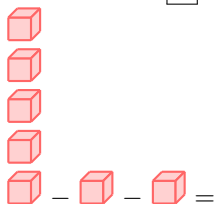


- $13 - 9 = 13 - 3 - 6$
 $= 10 - 6$
 $= 4$

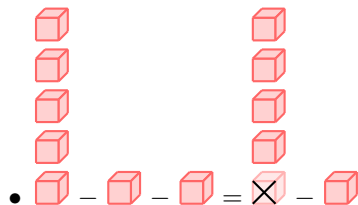
A.2 SUBTRACTING MULTIPLE NUMBERS

Ex 9:

$$5 - 1 - 1 = \boxed{3}$$



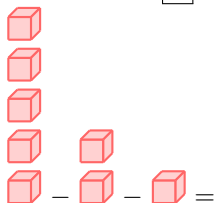
Answer:



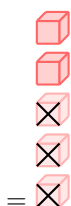
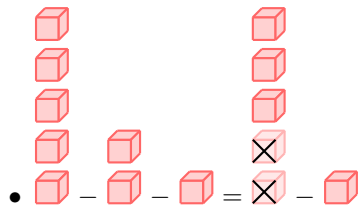
$$\bullet \quad 5 - 1 - 1 = 4 - 1 = 3$$

Ex 10:

$$5 - 2 - 1 = \boxed{2}$$



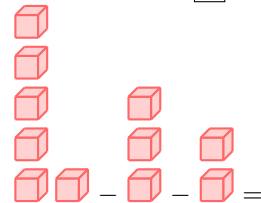
Answer:



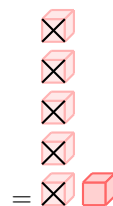
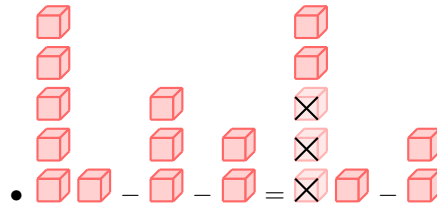
$$\bullet \quad 5 - 2 - 1 = 3 - 1 = 2$$

Ex 11:

$$6 - 3 - 2 = \boxed{1}$$



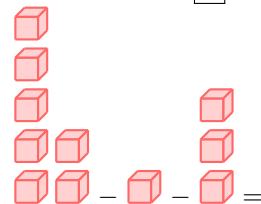
Answer:



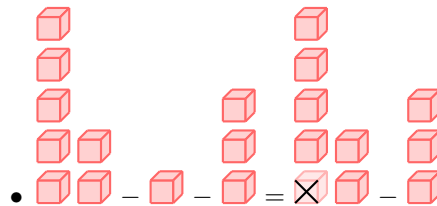
$$\bullet \quad 6 - 3 - 2 = 3 - 2 = 1$$

Ex 12:

$$7 - 1 - 3 = \boxed{3}$$



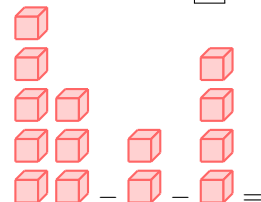
Answer:



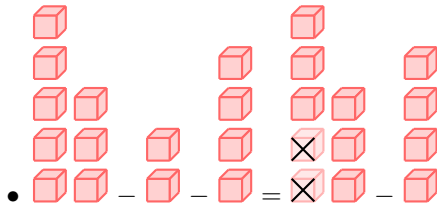
$$\bullet \quad 7 - 1 - 3 = 6 - 3 = 3$$

Ex 13:

$$8 - 2 - 4 = \boxed{2}$$

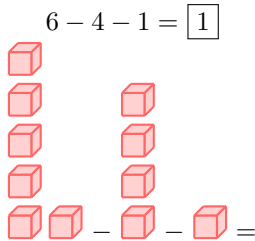


Answer:

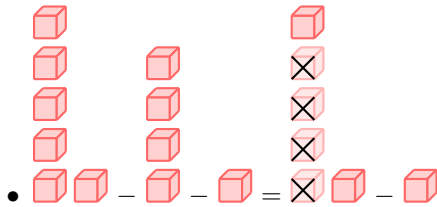


$$\bullet 8 - 2 - 4 = 6 - 4 = 2$$

Ex 14:

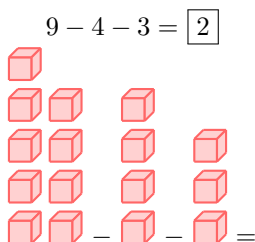


Answer:

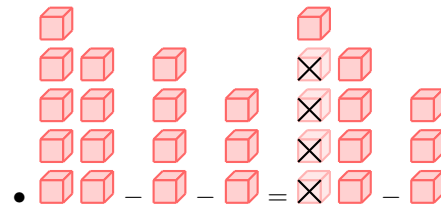


$$\bullet 6 - 4 - 1 = 2 - 1 = 1$$

Ex 15:



Answer:



$$\bullet 9 - 4 - 3 = 5 - 3 = 2$$

B SUBTRACTION IN COLUMNS

B.1 SUBTRACTING IN COLUMNS

Ex 16:

$$\begin{array}{r} 1364 \\ - 1142 \\ \hline 222 \end{array}$$

Answer:

- Set up column subtraction:

$$\begin{array}{r} 1364 \\ - 1142 \\ \hline \end{array}$$

- Subtract the ones: $4 - 2 = 2$

$$\begin{array}{r} 1364 \\ - 1142 \\ \hline 2 \end{array}$$

- Subtract the tens: $6 - 4 = 2$

$$\begin{array}{r} 1364 \\ - 1142 \\ \hline 22 \end{array}$$

- Subtract the hundreds: $3 - 1 = 2$

$$\begin{array}{r} 1364 \\ - 1142 \\ \hline 222 \end{array}$$

- Subtract the thousands: $1 - 1 = 0$

$$\begin{array}{r} 1364 \\ - 1142 \\ \hline 222 \end{array}$$

- So $1364 - 1142 = 222$

Ex 17:

$$\begin{array}{r} 3\ 4\ 6\ 0 \\ - 1\ 2\ 8\ 1 \\ \hline \boxed{2179} \end{array}$$

Answer:

- Set up column subtraction:

$$\begin{array}{r} 3\ 4\ 6\ 0 \\ - 1\ 2\ 8\ 1 \\ \hline \end{array}$$

- Subtract the one digits: $0 - 1$. There are not enough ones. You regroup 1 ten into 10 ones, making 10 ones.

$$\begin{array}{r} 3\ 4\ 6\ 10 \\ - 1\ 2\ 8\ 1 \\ \hline \end{array}$$

- Subtract the one digits: $10 - 1 = 9$

$$\begin{array}{r} 3\ 4\ 6\ 10 \\ - 1\ 2\ 8\ 1 \\ \hline 9 \end{array}$$

- Subtract the ten digits: $6 - 1(\text{compensated}) - 8$. There are not enough tens. You regroup 1 hundred into 10 tens, making 16 tens.

$$\begin{array}{r} 3\ 4\ 16\ 10 \\ - 1\ 2\ 8\ 1 \\ \hline 9 \end{array}$$

- Subtract the ten digits: $16 - 1(\text{compensated}) - 8 = 7$

$$\begin{array}{r} 3\ 4\ 16\ 10 \\ - 1\ 2\ 8\ 1 \\ \hline 7\ 9 \end{array}$$

- Subtract the hundred digits: $4 - 1(\text{compensated}) - 2 = 1$

$$\begin{array}{r} 3\ 4\ 16\ 10 \\ - 1\ 2\ 8\ 1 \\ \hline 1\ 7\ 9 \end{array}$$

- Subtract the thousand digits: $3 - 1 = 2$

$$\begin{array}{r} 3\ 4\ 16\ 10 \\ - 1\ 2\ 8\ 1 \\ \hline 2\ 1\ 7\ 9 \end{array}$$

- So, $3460 - 1281 = 2179$

Ex 18:

$$\begin{array}{r} 9\ 8\ 3\ 7 \\ - 2\ 2\ 4\ 6 \\ \hline \boxed{7591} \end{array}$$

Answer:

- Set up column subtraction:

$$\begin{array}{r} 9\ 8\ 3\ 7 \\ - 2\ 2\ 4\ 6 \\ \hline \end{array}$$

- Subtract the one digits: $7 - 6 = 1$

$$\begin{array}{r} 9\ 8\ 3\ 7 \\ - 2\ 2\ 4\ 6 \\ \hline 1 \end{array}$$

- Subtract the ten digits: $3 - 4$. There are not enough tens. You regroup 1 hundred into 10 tens, making 13 tens.

$$\begin{array}{r} 9\ 8\ 13\ 7 \\ - 2\ 2\ 4\ 6 \\ \hline 1 \end{array}$$

- Subtract the ten digits: $13 - 4 = 9$

$$\begin{array}{r} 9\ 8\ 13\ 7 \\ - 2\ 2\ 4\ 6 \\ \hline 9\ 1 \end{array}$$

- Subtract the hundred digits: $8 - 1(\text{compensated}) - 2 = 5$

$$\begin{array}{r} 9\ 8\ 13\ 7 \\ - 2\ 2\ 4\ 6 \\ \hline 5\ 9\ 1 \end{array}$$

- Subtract the thousand digits: $9 - 2 = 7$

$$\begin{array}{r} 9\ 8\ 13\ 7 \\ - 2\ 2\ 4\ 6 \\ \hline 7\ 5\ 9\ 1 \end{array}$$

- So, $9837 - 2246 = 7591$

Ex 19:

$$\begin{array}{r} 6\ 3\ 2\ 2 \\ - 1\ 4\ 5 \\ \hline \boxed{6177} \end{array}$$

Answer:

- Set up column subtraction:

$$\begin{array}{r} 6\ 3\ 2\ 2 \\ - 1\ 4\ 5 \\ \hline \end{array}$$

- Subtract the one digits: $2 - 5$. There are not enough ones. You regroup 1 ten into 10 ones, making 12 ones.

$$\begin{array}{r} 6322 \\ - 145 \\ \hline \end{array}$$

- Subtract the one digits: $12 - 5 = 7$

$$\begin{array}{r} 6322 \\ - 145 \\ \hline 7 \end{array}$$

- Subtract the ten digits: $2 - 1(\text{compensated}) - 4$. There are not enough tens. You regroup 1 hundred into 10 tens, making 12 tens.

$$\begin{array}{r} 6322 \\ - 145 \\ \hline 7 \end{array}$$

- Subtract the ten digits: $12 - 1(\text{compensated}) - 4 = 7$

$$\begin{array}{r} 6322 \\ - 145 \\ \hline 77 \end{array}$$

- Subtract the hundred digits: $3 - 1(\text{compensated}) - 1 = 1$

$$\begin{array}{r} 6322 \\ - 145 \\ \hline 177 \end{array}$$

- Subtract the thousand digits: $6 - 0 = 6$

$$\begin{array}{r} 6322 \\ - 145 \\ \hline 6177 \end{array}$$

- So, $6322 - 145 = 6177$

B.2 SOLVING REAL-WORLD PROBLEMS

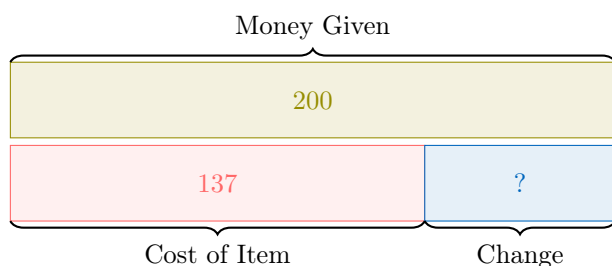
Ex 20: You buy an article for 137 dollars. You give the seller a 200 dollar bill.

How much change will you get back?

63 dollars

Answer:

- To find out how much change you'll get back, start with the amount you gave the seller and subtract the cost of the item.



$$\begin{array}{r} 200 \\ - 137 \\ \hline 63 \end{array}$$

- So, the change you'll get back is $200 - 137 = 63$ dollars.

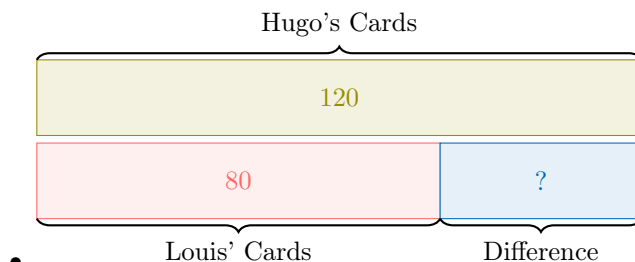
Ex 21: Hugo has 120 Pokémon cards, and Louis has 80 Pokémon cards.

What is the difference in the number of cards they have?

40 cards

Answer:

- To find the difference, subtract the number of cards Louis has from the number of cards Hugo has.



$$\begin{array}{r} 120 \\ - 80 \\ \hline 40 \end{array}$$

- The difference in the number of cards is $120 - 80 = 40$ cards.

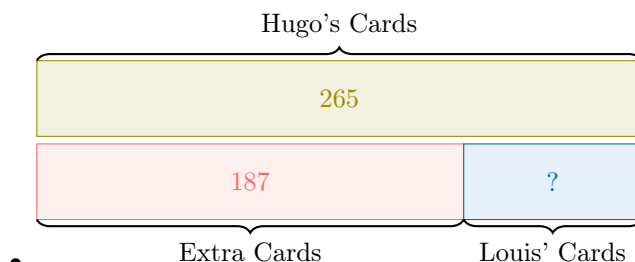
Ex 22: Hugo has 265 Pokémon cards. He has 187 more cards than Louis.

How many cards does Louis have?

78 cards

Answer:

- To find the number of cards Louis has, subtract the extra cards Hugo has from his total.



$$\begin{array}{r} 265 \\ - 187 \\ \hline 78 \end{array}$$

- Louis has $265 - 187 = 78$ cards.

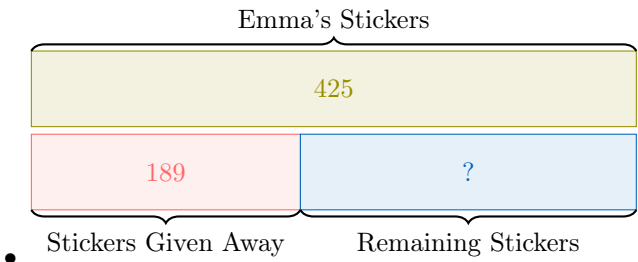
Ex 23: Emma has 425 stickers. She gives 189 stickers to her friend.

How many stickers does Emma have left?

236 stickers

Answer:

- To find out how many stickers Emma has left, subtract the number of stickers she gave away from her initial total.



•

$$\begin{array}{r} 425 \\ -189 \\ \hline 236 \end{array}$$

- So, Emma has $425 - 189 = 236$ stickers left.

