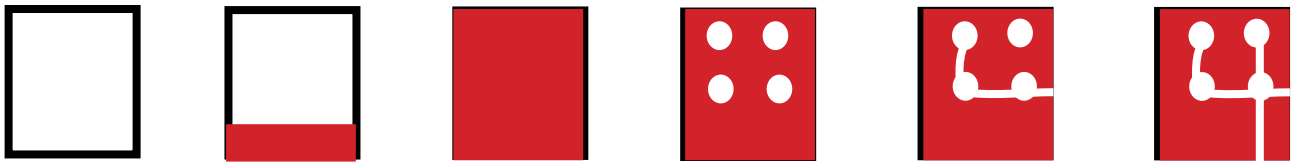
Icon Playing Card Subtraction
Directions:

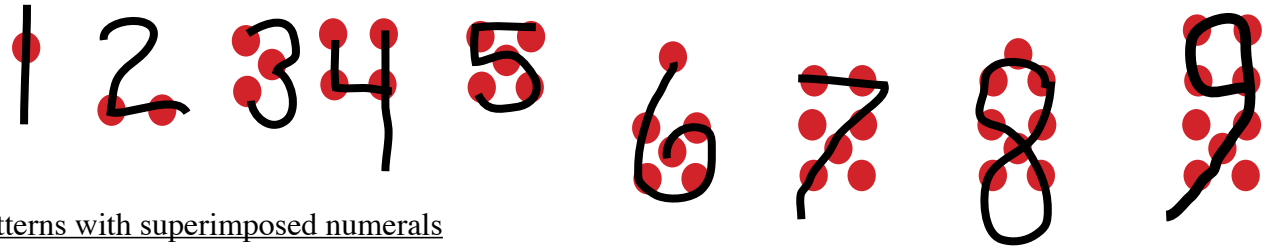
Requisite skill base:

1) The student must be able to recognize the value of each playing card on sight without counting.
Activities to prompt the acquisition of this skill:

• Paint / mustard bag activity: Fill a quart size Ziplock bag with a few squirts of mustard or tempera paint, seal it, then spread the paint until it covers the inside of the bag. Using your fingertips, make fingerprint impressions to form an icon pattern. The numeral is then drawn over the dot impressions by the student.



Empty Ziplock | With paint | Smear paint | Add dots | Superimpose numeral

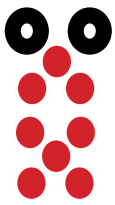


Icon Patterns with superimposed numerals

• Hold up an Icon card (initially 1- 5, then 1- 9) for 1 second. Ask the student to name the Icon. If the student is unable to name the Icon, cue the student using the following strategies: Finger trace the numeral over the cards' dots. Do not let the student count the dots.
"Write the same numeral on the back of the student's writing hand, then have the student write the number on paper and say the name of the numeral.

2) The student needs to be able to recognize the missing addends to 10 and verbalize the related addition and subtraction facts.
Activities to prompt the acquisition of this skill:

•Show the 10 Icon to the student. Say, "This is 10," Put the 10 Icon on the table as a reference.
Place another Icon card e.g., "8" on the table. Have the student place small objects (Cheerios) over the missing spaces to make ten.



Sample prompts / dialogue:

T: "How many Cheerios?"
S: "Two."
T: "How many dots?"
S: "Eight."
T: "How did we make ten?
10 = dots + Cheerios."
S: "10 = 8 + 2."

• Match pairs of playing cards that have a sum of ten.
Have the student make pairs of cards that have a sum of ten.
E.g., 9+1, 8+2, 7+3, 6+4, 5 (plus itself).
Have the student make four related fact sentences for each: E.g.," 10= 8+2, 10=2+8. 10-8=2. 10-2=8"

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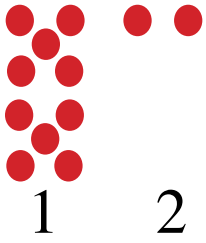
Icon Playing Card Subtraction
Directions:
Requisite skill base continued...

3) The student must be able to apply base -ten theory to encode (write) and decode (read) numbers greater than 9 in a relational context. In other words, the student must be able to understand and verbalize that the quantity 12 = 10 + 2.

• Have the student construct all of the numbers 10 -19 using the Icon cards.
The ten should always be to the left, with aditional ones on the right. E.g., ---->

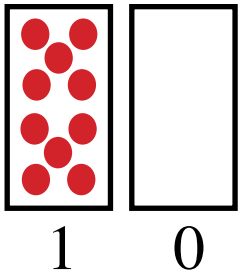


* Place an Icon card on the table. E.g."2."
Have the student add 10 by placing a "10" Icon card to it's left.
Have the student verbalize the entire quantity: "12."
Then have the student verbalize the same quantity in expanded notation: "12 = 10 + 2."

Ask the student, "How much larger is 12 than 10?' S: " 12 is 2 larger than 10."
Ask the student, "How much is 12 take away 10?' S: " 12 take away 10 is 2."
Ask the student, "How much is 12 take away 2?' S: " 12 take away 2 is 10."

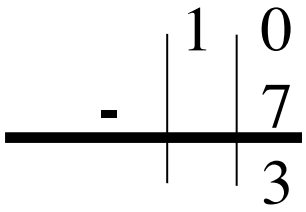
<u>Now it is time to subtract a single-digit number from a two-digit number.</u>

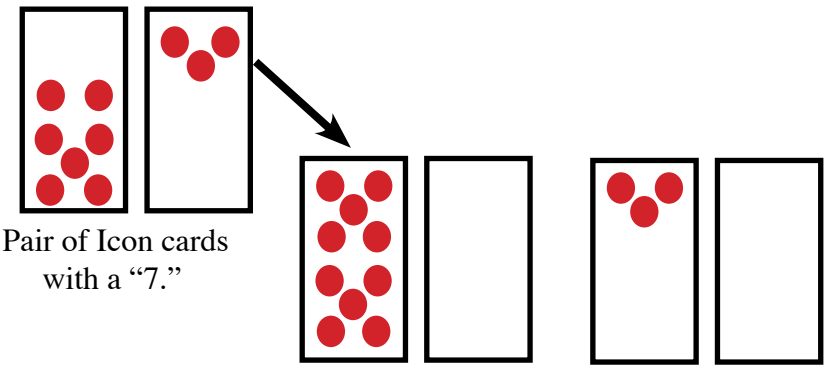
<u>Using the first template of one ten and no extra ones:</u>



Have the student make piles of Icon cards that add to 10: (1,9), (2,8) (3,7) (4,6) (5).
Now, look at the first problem: 10 -7.
Have the student find the pair of Icon cards with the "7." This 7 is paired with "3."
Prompt' "You need to take away 7."
"Can you take the seven from the one's place?"
S: "No. There are no ones."
T: Take the 7 from the ten. What will be left?"

Prompt: The teacher should place the "3"
Icon over the 10. "Three are left."
Move the "3" Icon to the right (one's place.)
The student is then prompted to answer 10-7
by writing a 3 in the one's place.



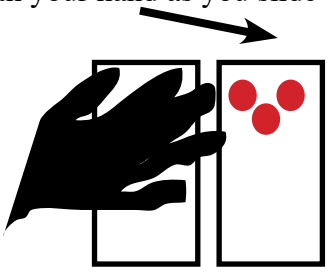


Pair of Icon cards
with a "7."

You need to take the 7 from the 10's place because there are not enough ones.

Cover the 10 with the 3 Icon. 3 are left.

Cover the ten
with your hand as you slide the 3-->

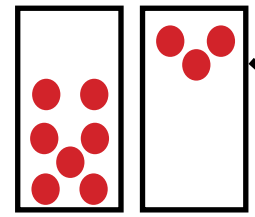


Now it is time to subtract a single-digit number from a two-digit number larger than 10.

Using the first template of one ten and two extra ones:

Have the student make piles of Icon cards that add to 10: (1,9), (2,8) (3,7) (4,6) (5).
Now, look at the first problem: 10 -7.
Have the student find the pair of Icon cards with the "7." This 7 is paired with "3."
Prompt' "You need to take away 7."
"Can you take the seven from the one's place?"
S: "No. There are not enough ones."
T: Take the 7 from the ten. What will be left?"

Prompt: The teacher should place the "3" Icon over the 10. "Three are left."
Move the "3" Icon to the right (over the two in the one's place.)
The answer (5) is created: comprised of the 3 left from the ten, along with the 2 in the ones place.
The student is then prompted to answer 12-7
by writing a 5 in the one's place.



Pair of Icon cards
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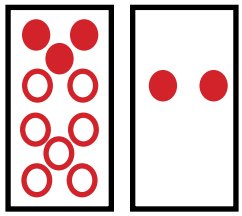
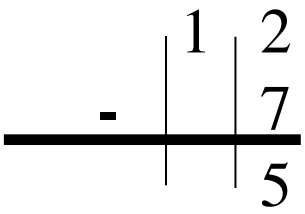
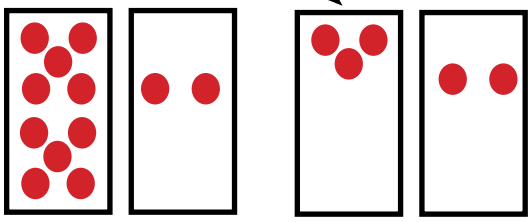
You need to take the 7 from the 10's
place because there are not enough ones.

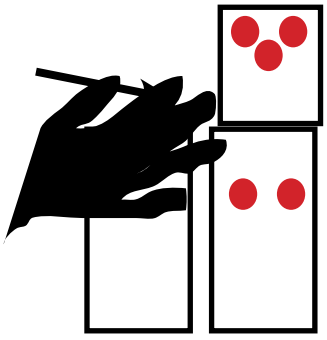






Cover the 10 with the 3 Icon. 3 are left.
... along with the two ones.
... Now merge the three with the two:

Cover the ten
with your hand as you slide the 3. -->



Icon Playing Cards

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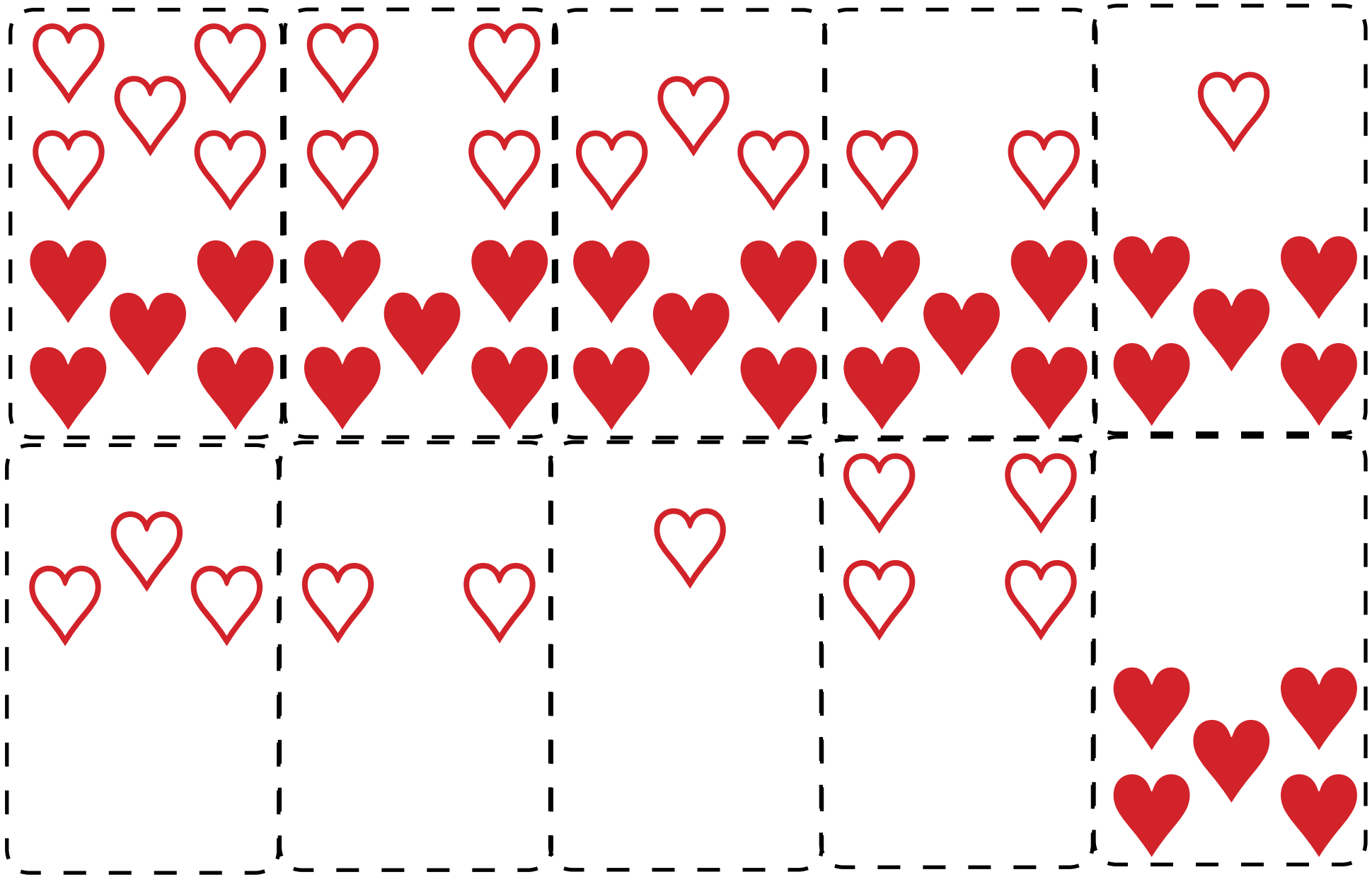
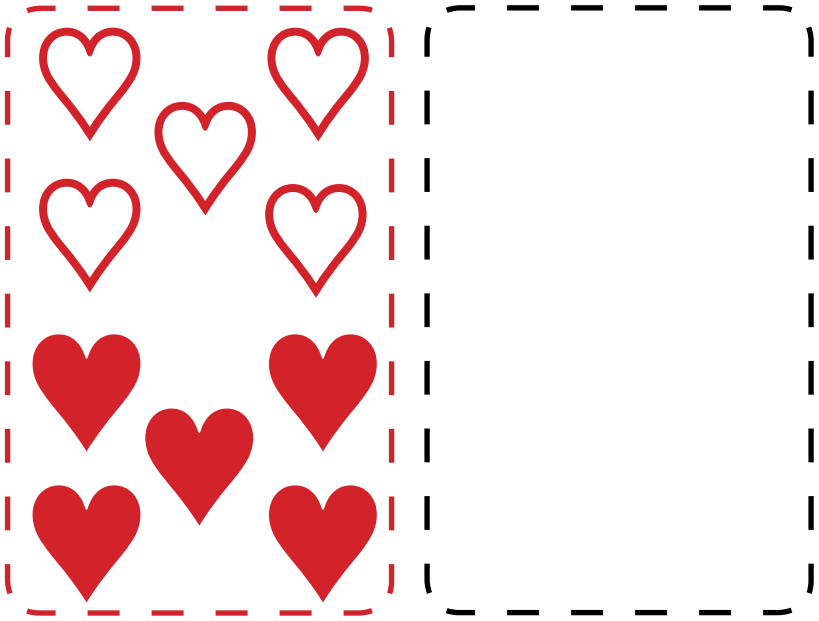


Icon Card Subtraction

Make pairs of Icon cards that add to 10.
Subtract a number (7) by covering the ten with with the number's missing addend to ten (3).
Slide the 3 to the ones place, then have the student write the answer.



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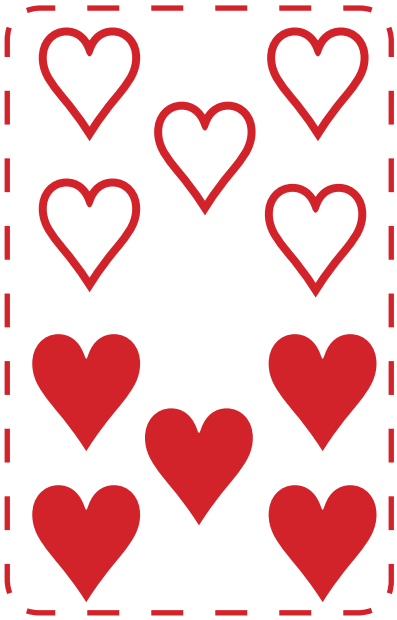
$$\begin{array}{r} 10 \\ -\ \square 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ -\ \square 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ -\ \square 9 \\ \hline \end{array}$$

Icon Card Subtraction



10	10	10
- 7	- 5	- 9
10	10	10
- 1	- 6	- 2
10	10	10
- 3	- 8	- 4

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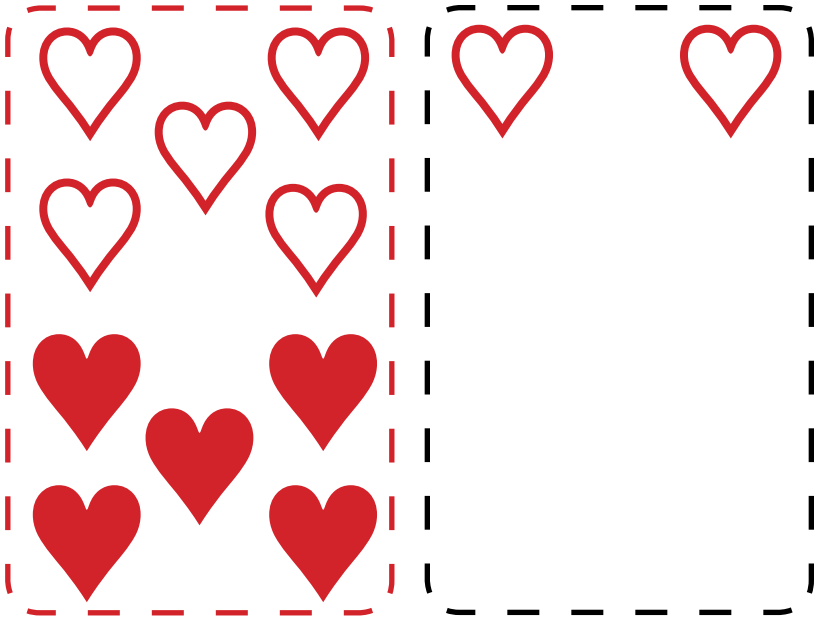
Icon Card Subtraction

Make pairs of Icon cards that add to 10.
Subtract a number (7) by covering the ten with with the number's missing addend to ten (3).
The answer to the problem will be the sum of the (3) and the two hearts in the ones place.

Have the student write the answer 5: (3 + 2)



$$\begin{array}{r} 12 \\ -\ \ 7 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 5 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 9 \\ \hline \end{array}$$

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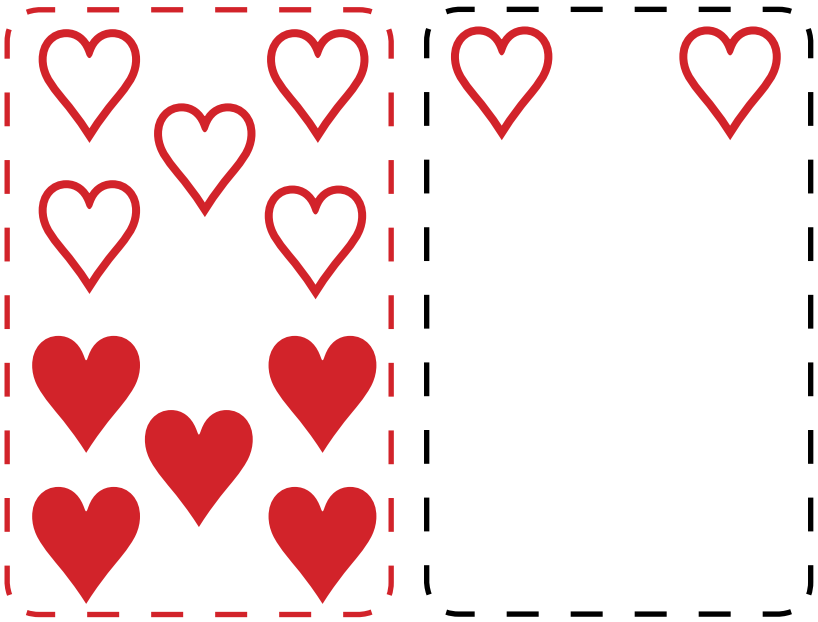
Icon Card Subtraction



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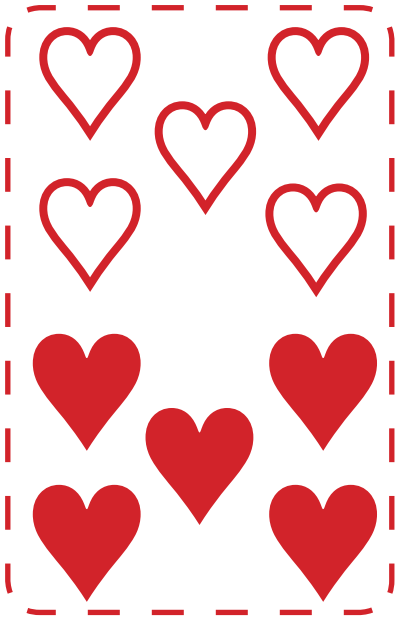
$$\begin{array}{r} 12 \\ -\ \ 7 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 5 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 9 \\ \hline \end{array}$$

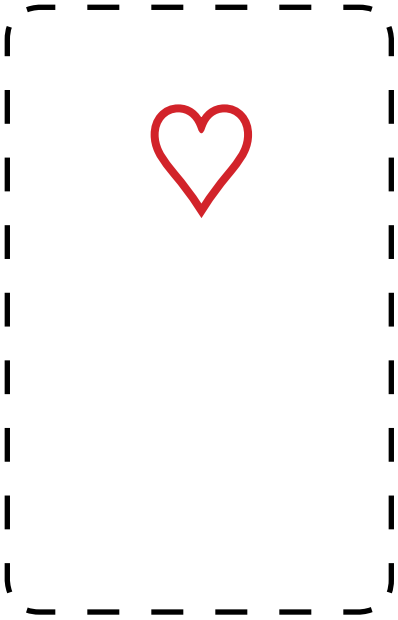
$$\begin{array}{r} 12 \\ -\ \ 8 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 3 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 4 \\ \hline \end{array}$$

No need to regroup!

$$\begin{array}{r} 12 \\ -\ \ 6 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 1 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\ \ 2 \\ \hline \end{array}$$

Icon Card Subtraction





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$$\begin{array}{r} 11 \\ -\ 7 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -\ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -\ 9 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -\ 8 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -\ 3 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -\ 4 \\ \hline \end{array}$$

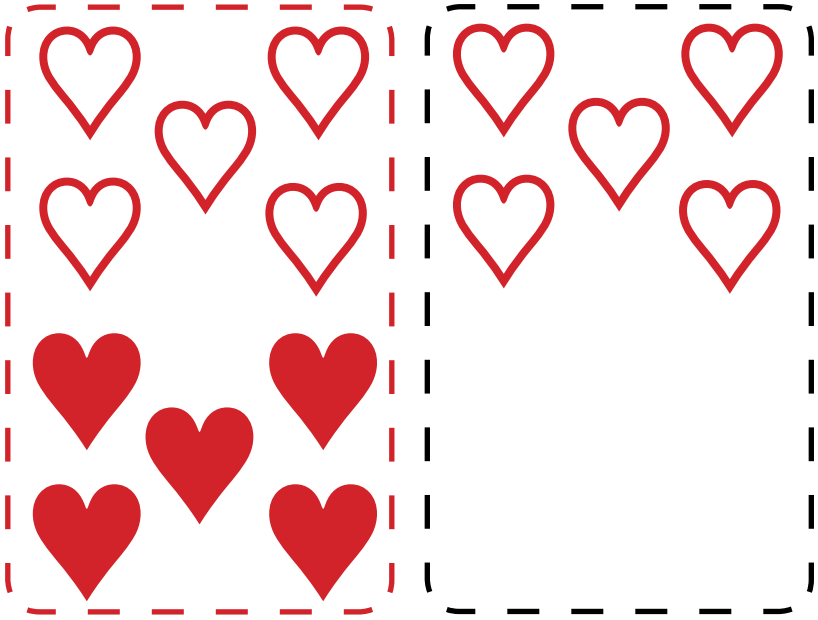
No need to regroup!

$$\begin{array}{r} 11 \\ -\ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -\ 2 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ -\ 1 \\ \hline \end{array}$$

Icon Card Subtraction



$$\begin{array}{r} 15 \\ -\ 7 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ -\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ -\ 9 \\ \hline \end{array}$$

No need to regroup!

$$\begin{array}{r} 15 \\ -\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ -\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ -\ 4 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ -\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ -\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ -\ 1 \\ \hline \end{array}$$

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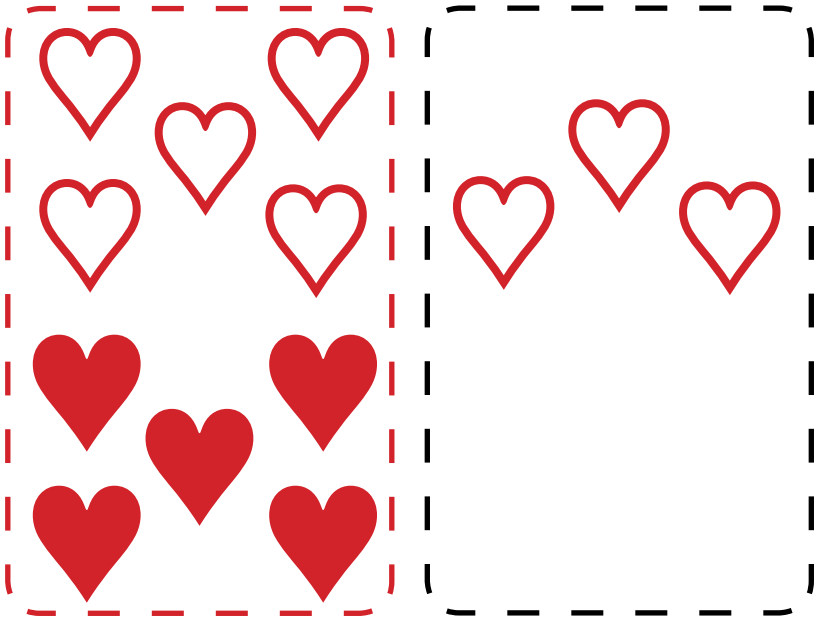
Icon Card Subtraction



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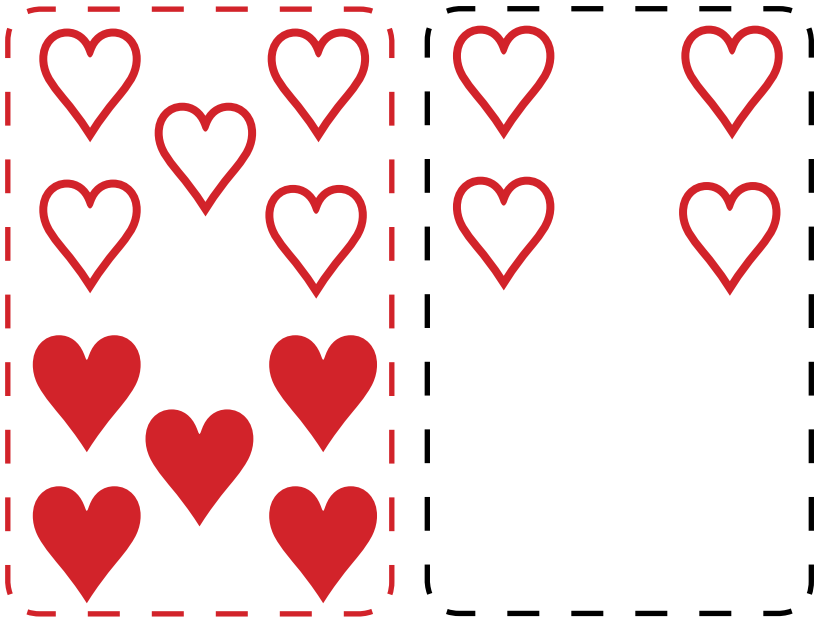
$$\begin{array}{r} 13 \\ -\ 7 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ -\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ -\ 9 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ -\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ -\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ -\ 4 \\ \hline \end{array}$$

No need to regroup!

$$\begin{array}{r} 13 \\ -\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ -\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ -\ 1 \\ \hline \end{array}$$

Icon Card Subtraction



$$\begin{array}{r} 14 \\ -\ 7 \\ \hline \end{array} \qquad \begin{array}{r} 14 \\ -\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 14 \\ -\ 9 \\ \hline \end{array}$$

No need to regroup!

$$\begin{array}{r} 14 \\ -\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 14 \\ -\ 5 \\ \hline \end{array} \qquad \begin{array}{r} 14 \\ -\ 3 \\ \hline \end{array}$$

~~No need to regroup!~~

$$\begin{array}{r} 14 \\ -\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 14 \\ -\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 14 \\ -\ 1 \\ \hline \end{array}$$

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