# 21 times 2 (Garner)

Circle  exactly six numbers so the total is 21

Circle 6 numbers
that add up to 21

| 9 | 9 | 9 |
|---|---|---|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| l | l | l |

Circle 6 numbers
that add up to 21

| 9 | 9 | 9 |
|---|---|---|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| l | l | l |

Circle 6 numbers
that add up to 21

| 9 | 9 | 9 |
|---|---|---|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| l | l | l |

Circle 6 numbers
that add up to 21

| 9 | 9 | 9 |
|---|---|---|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| l | l | l |

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# Large Size

Circle 6 numbers
that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| 1 | 1 | 1 |

Circle 6 numbers
that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| 1 | 1 | 1 |

Circle 6 numbers
that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| 1 | 1 | 1 |

Circle 6 numbers
that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| 1 | 1 | 1 |

Circle 6 numbers
that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| 1 | 1 | 1 |

Circle 6 numbers
that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| 1 | 1 | 1 |

# 21 times 2 (Garner)

| Circle 6 numbers that add up to 21 |
|:---:|

| 9 | 9 | 9 |
|:---:|:---:|:---:|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

| Circle 6 numbers that add up to 21 |
|:---:|

| 9 | 9 | 9 |
|:---:|:---:|:---:|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

| Circle 6 numbers that add up to 21 |
|:---:|

| 9 | 9 | 9 |
|:---:|:---:|:---:|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

| Circle 6 numbers that add up to 21 |
|:---:|

| 9 | 9 | 9 |
|:---:|:---:|:---:|
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

Small Size

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
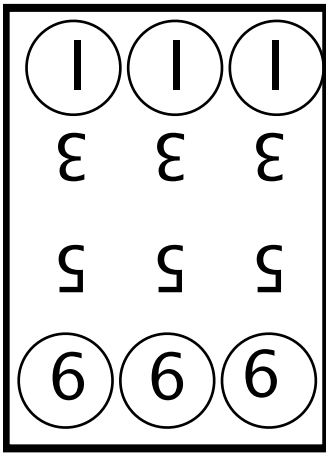that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Circle 6 numbers
that add up to 21

9 9 9
5 5 5
3 3 3
1 1 1

Martin Garner Solution:
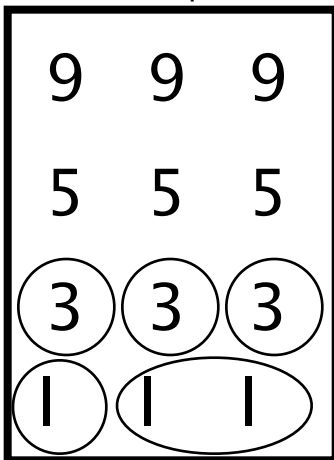
Circle 6 numbers
that add up to 21

Be sure to set the card in front of the person
with the words facing up

If they cannot get a total of 21 you should
circle the three 9's and three 1's
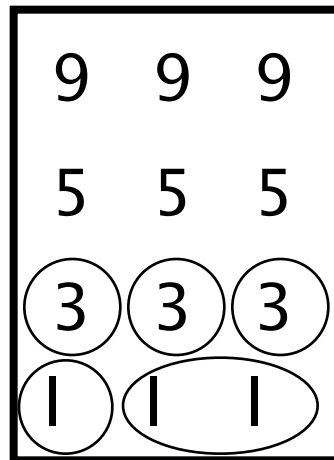They will point out that those six numbers do not total 21.
**Rotate the card 180 degrees**
and the three 6's and 3 1's will total 21

A second solution was sent in to Martin Garner by a reader after he published his solution. It is shown in the picture below and to the **left**. Many people would say that this was not a solution. There are only 5 numbers circled and state that eleven is one number. The single number 11 has 2 digits which are numbers but their role in the number 11 are as digits not numbers. This puzzle allows for a great discussion about the exact use of words and the precise meanings we apply to them in mathematics. The precise definitions we state in mathematics are often skipped over by many students. I have changed the wording of the puzzle I use with my students to read "Circle 6 digits that add

Circle 6 numbers
that add up to 21



Circle 6 **DIGITS**
**so the numbers**

# 21 times 2 (Garner)

### Circle 6 numbers that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

### Circle 6 numbers that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

### Circle 6 numbers that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

### Circle 6 numbers that add up to 21

| | | |
|---|---|---|
| 9 | 9 | 9 |
| 5 | 5 | 5 |
| 3 | 3 | 3 |
| I | I | I |

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# 21 times 2 (Garner)

| Circle 6 numbers that add up to 21 | Circle 6 numbers that add up to 21 | Circle 6 numbers that add up to 21 |
|---|---|---|
| 9 9 9 | 9 9 9 | 9 9 9 |
| 5 5 5 | 5 5 5 | 5 5 5 |
| 3 3 3 | 3 3 3 | 3 3 3 |
| 1 1 1 | 1 1 1 | 1 1 1 |

| Circle 6 numbers that add up to 21 | Circle 6 numbers that add up to 21 | Circle 6 numbers that add up to 21 |
|---|---|---|
| 9 9 9 | 9 9 9 | 9 9 9 |
| 5 5 5 | 5 5 5 | 5 5 5 |
| 3 3 3 | 3 3 3 | 3 3 3 |
| 1 1 1 | 1 1 1 | 1 1 1 |

| Circle 6 numbers that add up to 21 | Circle 6 numbers that add up to 21 | Circle 6 numbers that add up to 21 |
|---|---|---|
| 9 9 9 | 9 9 9 | 9 9 9 |
| 5 5 5 | 5 5 5 | 5 5 5 |
| 3 3 3 | 3 3 3 | 3 3 3 |
| 1 1 1 | 1 1 1 | 1 1 1 |

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# 21 times 2 (Garner)

| Circle 6 digits that add up to 21 |
|:---:|
| 9   9   9 |
| 5   5   5 |
| 3   3   3 |
| I   I   I |

| Circle 6 digits that add up to 21 | Circle 6 digits that add up to 21 | Circle 6 digits that add up to 21 |
|:---:|:---:|:---:|
| 9   9   9 | 9   9   9 | 9   9   9 |
| 5   5   5 | 5   5   5 | 5   5   5 |
| 3   3   3 | 3   3   3 | 3   3   3 |
| I   I   I | I   I   I | I   I   I |

# 21 times 2 (Garner)

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |

| Circle 6 digits that add up to 21 |
|---|
| 9 9 9 |
| 5 5 5 |
| 3 3 3 |
| 1 1 1 |