

# Reasoning and Problem Solving

## Step 2: Round to the Nearest 10

### National Curriculum Objectives:

Mathematics Year 4: (4N4b) [Round any number to the nearest 10, 100 or 1,000](#)

### Differentiation:

Questions 1, 4 and 7 (Reasoning)

**Developing** Explain which two 2 and 3-digit numbers are in the wrong place in the table. Rounding tens only when ones digit is underlined. Numbers represented using numerals only.

**Expected** Explain which three 3-digit numbers are in the wrong place in the table. Numbers represented using numerals and words.

**Greater Depth** Explain which four 3-digit numbers are in the wrong place in the table. Numbers represented using numerals, words and Roman numerals.

Questions 2, 5 and 8 (Reasoning)

**Developing** Explain who has correctly rounded a three-digit numbers to the nearest 10. Statement written as numbers only.

**Expected** Explain who has correctly rounded a three-digit number to the nearest 10. Statement written as words and numbers.

**Greater Depth** Explain who has correctly rounded a three-digit number to the nearest 10. Statement written as words where the numbers cross the hundreds column.

Questions 3, 6 and 9 (Problem Solving)

**Developing** Suggest possible combinations of counters for a given two-digit rounded number.

**Expected** Suggest possible combinations of counters for a given three-digit rounded number.

**Greater Depth** Solve the word problems by investigating the pairs that round to the same number with a given difference between the digit sum.

More [Year 4 Place Value](#) resources.

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## Round to the Nearest 10

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1a. Which numbers are incorrectly placed in the table below? Explain why.

Nearest ten is 110	Nearest ten is 120
105	118
114	119
109	124
113	126
104	122



R

1b. Which numbers are incorrectly placed in the table below? Explain why.

Nearest ten is 70	Nearest ten is 80
69	81
72	84
65	75
77	88
73	76



R

2a. Who is correct? Prove it.

Iraj says,



156 to the nearest ten is 150.

Max says,

156 to the nearest ten is 160.



R

2b. Who is correct? Prove it.

Linda says,



128 to the nearest ten is 130.

Charles says,

128 to the nearest ten is 120.



R

3a. The number represented by the place value counters that are hidden behind the splat can be rounded to 40.



There are fewer than 8 counters. What could they be? Show all possibilities by drawing the place value counters.



PS

3b. The number represented by the place value counters that are hidden behind the splat can be rounded to 70.



There are more than 11 counters. What could they be? Show all possibilities by drawing the place value counters.



PS

## Round to the Nearest 10

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4a. Which numbers are incorrectly placed in the table below? Explain why.

Nearest ten is 210	Nearest ten is 220
211	216
two hundred and sixteen	214
208	two hundred and fifteen
204	219
two hundred and thirteen	two hundred and seventeen



R

4b. Which numbers are incorrectly placed in the table below? Explain why.

Nearest ten is 740	Nearest ten is 750
seven hundred and thirty-eight	747
744	seven hundred and fifty-three
736	745
741	seven hundred and fifty-six
seven hundred and forty-six	755



R

5a. Who is correct? Prove it.

Fay says,



Eight hundred and fifteen to the nearest ten is eight hundred and twenty.

Sean says,

815 to the nearest ten is eight hundred and ten.



R

5b. Who is correct? Prove it.

Dustin says,



Nine hundred and eight-four to the nearest ten is nine hundred and eighty.

Ramaya says,

984 to the nearest ten is nine hundred and ninety.



R

6a. The number represented by the place value counters that are hidden behind the splat can be rounded to 140.

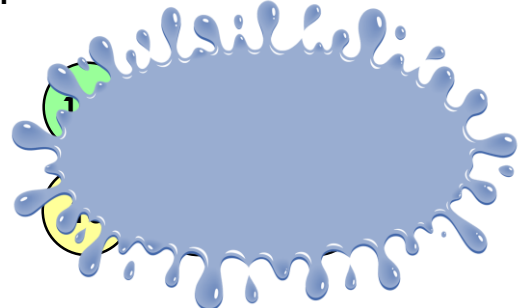


There are more than 10 counters. What could they be? Show all possibilities by drawing the place value counters.



PS

6b. The number represented by the place value counters that are hidden behind the splat can be rounded to 120.



There are fewer than 6 counters. What could they be? Show all possibilities by drawing the place value counters.



PS

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7a. Which numbers are incorrectly placed in the table below? Explain why.

Nearest ten is 380	Nearest ten is 390
384	Three hundred and ninety-four
three hundred and eighty-one	391
CCCLXXXV	395
376	CCCXCVI
three hundred and seventy-four	CCCXCII



R

7b. Which numbers are incorrectly placed in the table below? Explain why.

Nearest ten is 190	Nearest ten is 200
191	one hundred and ninety-eight
one hundred and ninety-nine	CCI
CXCV	206
184	two hundred and five
one hundred and ninety-four	202



R

8a. Who is correct? Prove it.

Fiona says,



Four hundred and ninety-seven to the nearest ten is four hundred and ninety.

Aiden says,

Four hundred and ninety seven to the nearest ten is five hundred.



R

8b. Who is correct? Prove it.

Stanley says,



Six hundred and ninety-five to the nearest ten is seven hundred.

Rohan says,

Six hundred and ninety-five to the nearest ten is six hundred and ninety.



R

9a. Samantha is thinking of two numbers that both round to 180.

The difference between the two digit sums is 5.

What could the two numbers be?  
Investigate all the possible pairs.

Which pair of numbers have the same digit sum?



PS

9b. Henry is thinking of two numbers that both round to 190.

The difference between the two digit sums is 4.

What could the two numbers be?  
Investigate all the possible pairs.

Which pair of numbers have the same sum?



PS

## Reasoning and Problem Solving Round to the Nearest 10

### Developing

- 1a. 104 and 126 are incorrect. 104 rounds to 100 and 126 rounds to 130.  
2a. Max is correct because 156 to the nearest ten is 160 – 6 rounds up.  
3a. The place value counters could represent 40; 41; 42 or 43

### Expected

- 4a. Two hundred and sixteen; 204 and 214 are incorrect. Two hundred and sixteen rounds to 220, 204 rounds to 200, 214 rounds to 210.  
5a. Fay is correct because 815 to the nearest ten is 820 – 5 rounds up.  
6a. The place value counters could represent 137; 138 or 139.

### Greater Depth

- 7a. CCCLXXXV; three hundred and seventy-four; 395 and CCCXCVI are incorrect. CCCLXXXV rounds to 390, three hundred and seventy-four rounds to 370, 395 rounds to 400, CCCXCVI rounds to 400.  
8a. Aiden is correct because 497 to the nearest ten is 500 – 7 rounds up.  
9a. The pairs with a difference of 5 are: 176 and 180; 177 and 181; 178 and 182; 179 and 183. 175 and 184 have the same digit sum.

## Reasoning and Problem Solving Round to the Nearest 10

### Developing

- 1b. 77 and 88 are incorrect. 77 rounds to 80 and 88 rounds to 90.  
2b. Linda is correct because 128 to the nearest 10 is 130 – 8 rounds up.  
3b. The place value counters could represent 66; 67; 68; or 69

### Expected

- 4b. Seven hundred and forty-six and; seven hundred and fifty-six and 755 are incorrect. Seven hundred and forty-six rounds to 750, seven hundred and fifty-six and 755 round to 760.  
5b. Dustin is correct because 984 to the nearest ten is 980 – 4 rounds down.  
6b. The place value counters could represent 120; 121 or 122.

### Greater Depth

- 7b. One hundred and ninety-nine, CXCXV; 184; 206; two hundred and five are incorrect. One hundred and ninety-nine rounds to 200, CXCXV rounds to 200, 184 rounds to 180, 206 and two hundred and five round to 210.  
8b. Stanley is correct because 695 to the nearest 10 is 700 – 5 rounds up.  
9b. The pairs with a difference of 4 are: 186 and 191; 187 and 192; 188 and 193; 185, (or 194) and 189 (or 190). 185 and 194 have the same digit sum.