

# Diagnostic Quiz

Number: Number and Place  
Value  
Pre-topic Test 1

Year 2

# Year 2 Number and Place Value 1

Name.....

Date..... Class.....

School..... Score.....



Please tick your answer to each question, like the example below. You can use any space left below a question for your working out, if you need it.

## Example question

1. What fraction of the shape is shaded blue?



Select the equivalent fraction below.

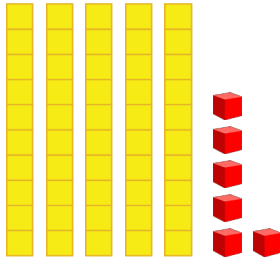
- a) ☐  $\frac{4}{4}$    b) ☐  $\frac{2}{8}$    c) ☒  $\frac{1}{2}$    d) ☐  $\frac{8}{8}$

1. Which numbers would complete the number tracks?

25	30	35		45	50	55	
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- a) ☐ 40 and 50  
b) ☐ 30 and 50  
c) ☐ 40 and 60  
d) ☐ 35 and 65

2. Which number does the Base 10 show?



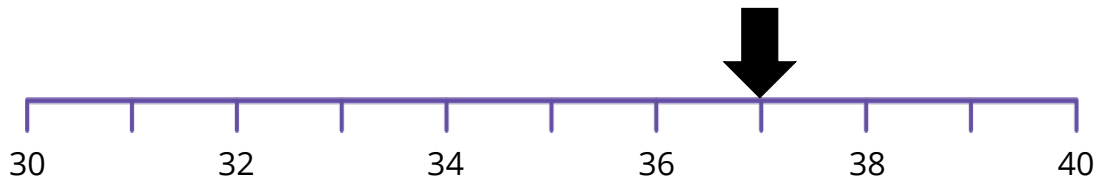
- a) ☐ fifty-six
  - b) ☐ sixty-five
  - c) ☐ eleven
  - d) ☐ five six
- 

3. Which number is wrong in this sequence?

fourteen, 16, eighteen, 19, 22

- a) ☐ 22
  - b) ☐ 19
  - c) ☐ 16
  - d) ☐ fourteen
-

4. Which number is the arrow pointing to?



a) ☐ 37

b) ☐ 36

c) ☐ 7

d) ☐ 38

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5. Which symbol would complete this comparative statement?

83 \_\_\_\_\_ 38

a) ☐ >

b) ☐ <

c) ☐ =

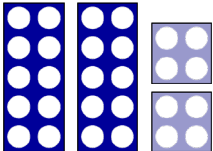
d) ☐ +

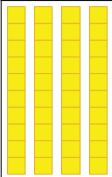

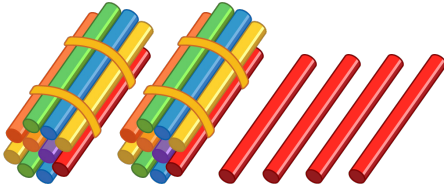
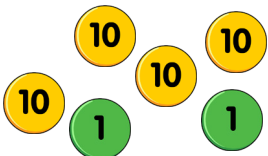
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6.  $73 =$

- a) ☐  $70 + 30$
- b) ☐ 7 ones and 3 tens
- c) ☐  $7 + 3$
- d) ☐  $70 + 3$
- 

7. Which image represents 24?

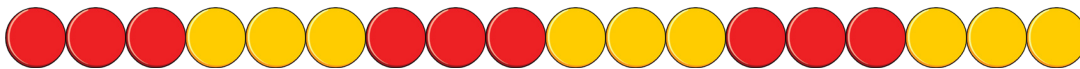
- a) ☐ 
- b) ☐

Tens	Ones
	
- c) ☐ 
- d) ☐ 
-

**8.** Write forty-three in digits.

- a)  403
- b)  43
- c)  34
- d)  14
- 

**9.** Which number is shown?



- a)  6
- b)  15
- c)  18
- d)  17
- 

**10.** Which symbol would complete this comparative statement?

$$30 + 11 \text{ \_\_\_\_\_\_ } 20 + 23$$

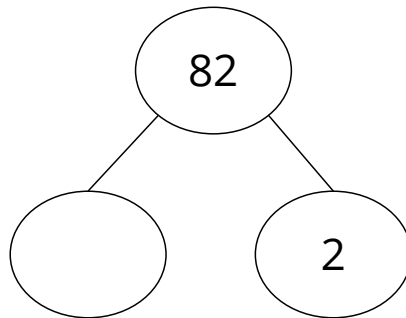
- a)  >
- b)  <
- c)  =
- d)  +

---

**11.** Write 25 in words.

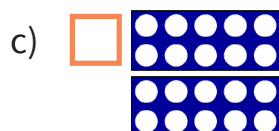
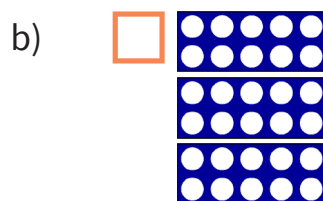
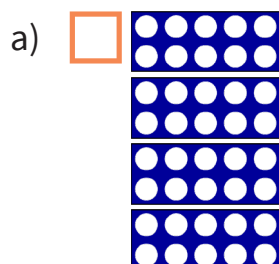
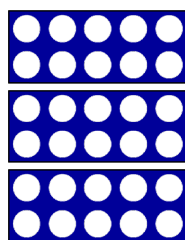
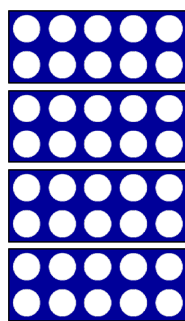
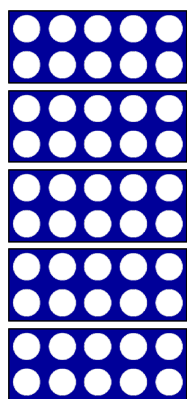
- a) ☐ twenty-five
  - b) ☐ two five
  - c) ☐ seventeen-five
  - d) ☐ two ten five
- 

**12.** Which number would complete the part-whole model?

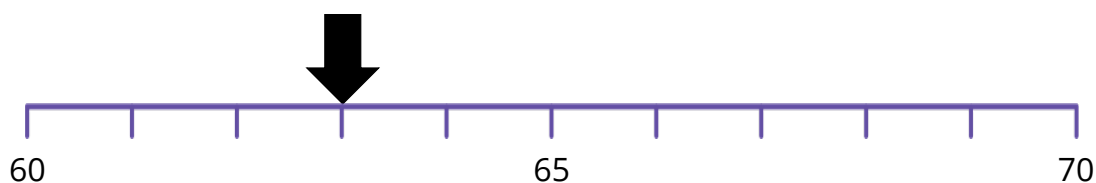


- a) ☐ 2
  - b) ☐ 82
  - c) ☐ 8
  - d) ☐ 80
-

**13.** What comes next in this sequence?



**14.** Which number is the arrow pointing to?



a) ☐ 63

b) ☐ 64

c) ☐ 3

d) ☐ 603



**15.** Which number would complete this number sentence?

$$\boxed{24} + \boxed{\phantom{00}} = \boxed{54}$$

a) ☐ 20

b) ☐ 30

c) ☐ 3

d) ☐ 10

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# Year 2 Number and Place Value 1

## Answer Sheet

### 1. Which numbers would complete the number tracks?

*Checks understanding of counting forwards in fives.*

- a) 40 and 50: Has not understood the sequence. They have correctly identified the first missing number but have counted back from the second number.
  - b) 30 and 50: Has not understood that the sequence is increasing in fives. They have counted back five from the number before the missing number instead.
  - c) 40 and 60: Correct answer.
  - d) 35 and 65: Has added ten to the number before the final missing number, they do not understand the sequence is increasing in fives.
- 

### 2. Which number does the Base 10 show?

*Checks understanding of reading and writing numbers to 100 in words.*

- a) fifty-six: Correct answer.
  - b) sixty-five: Has confused the tens and ones. May not understand that the order of digits is important.
  - c) eleven: Has counted how many items there are instead of writing the value of the items.
  - d) five six: Has stated how many tens sticks there are and ones cubes there are. They do not understand the value of tens and ones.
- 

### 3. Which number is wrong in this sequence? fourteen, 16, eighteen, 19, 22

*Checks understanding of counting forwards in twos.*

- a) 22: Has selected the only number in the 20s. They may not understand that the sequence is increasing in 2s so 22 fits.
  - b) 19: Correct answer.
  - c) 16: May have picked this as it is between two numbers written in words. They have not understand that although the numbers are written in different ways, there is a pattern.
  - d) fourteen: Has selected the only option where the number is written in words. They may think it is wrong as it is written in words or because it is the first number in the sequence.
- 

### 4. Which number is the arrow pointing to?

*Checks understanding of reading and writing numbers to at least 100 in digits.*

- a) 37: Correct answer.
  - b) 36: Has identified the marked number before where the arrow is pointing. They may not understand how to calculate the missing number on the number line.
  - c) 7: Has identified the digit in the ones column but has not included the tens.
  - d) 38: Has identified the marked number after where the arrow is pointing. They may not understand how to calculate the missing number on the number line.
- 

### 5. Which symbol would complete this comparative statement? 83 ? 38

*Checks understanding of comparing numbers from 0 to 100 using  $<$ ,  $>$  and  $=$ .*

- a)  $>$  : Correct answer.
  - b)  $<$  : Has understood that one number is larger but has used the wrong symbol.
  - c)  $=$  : Has identified that digits are the same but has not understood that the order of the digits are different, therefore the numbers are different. Also may not understand the symbol.
  - d)  $+$  : Has not understood that the addition symbol is not used to compare numbers.
- 

## 6. $73 =$

*Checks understanding of place value of each digit in a two-digit number.*

- a)  $70 + 30$ : Has not understood that the digit 3 means 3 ones.
  - b) 7 ones and 3 tens: Has confused tens and ones. They do not have a strong understanding of the place value columns.
  - c)  $7 + 3$ : Has not understood that the digit 7 has a value of 7 tens or 70. They may not have a strong understanding of how the position of digits changes their value.
  - d)  $70 + 3$ : Correct answer.
- 

## 7. Which image represents 24?

*Checks understanding of how to represent numbers.*

- a) number shapes: Has understood that the number shapes include twenty and at least one four but has not identified that the number shapes represent a total of 28.
- b) place value chart: Has not identified that there are 4 tens and 2 ones, not 2 tens and 4 ones. They do not have a strong understanding of tens and ones.

- c) straws: Correct answer.
  - d) counters: Has not understood the value of the counters. May have seen 4 counters of one colour and 2 of another and assumed they represented 24.
- 

## 8. Write forty-three in digits.

*Checks understanding of reading and writing numbers to at least 100 in digits.*

- a) 403: Has understood how to write the parts of the number 43 but does not know how to combine them or the purpose of 0.
  - b) 43: Correct answer.
  - c) 34: Has reversed the digits 4 and 3 when writing the answer.
  - d) 14: Has read forty as fourteen and ignored the three. May not understand how to write numbers in words (or may mishear similar sounding words e.g. forty and fourteen).
- 

## 9. Which number is shown?

*Checks understanding of counting forwards in threes.*

- a) 6: Has identified how many groups of three there are.
  - b) 15: Has counted in threes but has missed one group of three.
  - c) 18: Correct answer.
  - d) 17: Has miscounted the counters. May not have counted in threes or understand the pattern when counting in threes.
- 

## 10. Which symbol would complete this comparative statement? $30 + 11$ ? $20 + 23$

**Checks understanding of comparing numbers from 0 to 100 using  $<$ ,  $>$  and  $=$ .**

- a)  $>$ : Has assumed that  $30 + 11$  is the larger total as 30 (the first number in the first calculation) is larger than 20 (the first number in the second calculation).
  - b)  $<$ : Correct answer.
  - c)  $=$ : May not know how to compare the two number sentences and has assumed they are equal.
  - d)  $+$ : Has not understood that the addition symbol is not used to compare numbers.
- 

**11. Write 25 in words.**

**Checks understanding of reading and writing numbers to 100 in words.**

- a) twenty-five: Correct answer.
  - b) two five: Has identified the digits in the 25. They do not have a strong understanding of the value of digits in a number.
  - c) seventeen-five: The 'seventeen' confusion comes from continuing the 'teen' pattern when counting to twenty. They may not have a strong understanding of the number 20 or greater.
  - d) two ten five: Has understood that there are two tens but does not know that this relates to twenty.
- 

**12. Which number would complete the part-whole model?**

**Checks understanding of place value of each digit in a two-digit number.**

- a) 2: Has not identified that the ones have already been placed in the part-whole model.
- b) 82: Has not identified that they need to partition the number.

- c) 8: Has not understood the value of the digit 8.
  - d) 80: Correct answer.
- 

**13. What comes next in this sequence?**

**Checks understanding of counting backwards in tens.**

- a) 4 tens: Has not understood the sequence is decreasing in tens and has added ten instead.
  - b) 3 tens: Has repeated the final representation. They may not understand how to continue the sequence.
  - c) 2 tens: Correct answer.
  - d) 1 ten: May have identified that the pattern is decreasing by ten and selected the single ten number shape to represent this.
- 

**14. Which number is the arrow pointing to?**

**Checks understanding of estimating numbers on a number line.**

- a) 63: Correct answer.
  - b) 64: Has started counting the ones from the point marked 60 (e.g. counting 60 as 61).
  - c) 3: Has counted the number of ones only.
  - d) 603: Has not remembered that 0 is a place holder and is not needed in this answer.
- 

**15. Which number would complete this number sentence?**

**Check understanding of place value and number facts to solve problems.**

- a) 20: Has identified that a multiple of 10 needs to be added but has miscalculated the multiple of 10 needed.

- b) 30: Correct answer.
- c) 3: Has identified that the difference between the digits 2 and 5 is 3 but has not understood that the 2 and 5 are tens, therefore the difference is 3 tens.
- d) 10: Has understood that the tens have changed but has not identified by how many the tens have changed.