

Number Patterns and Sequences

Number
Sequence Cars



WALT: Find patterns in number sequences.



WILF:

- I can recognise a pattern in number sequences.
- I can complete a sequence by finding the pattern.

A number pattern is a sequence of numbers that follow a certain rule.

This is a number pattern:

1, 2, 3, 4, 5, 6



The rule is
add 1 each
time

1, 2, 3, 4, 5, 6

$$1 + 1 = 2$$

$$2 + 1 = 3$$

$$3 + 1 = 4$$

$$4 + 1 = 5$$

$$5 + 1 = 6$$

What would the next number be in this pattern?

2 7 6 3
0 8 9 4
1 5



What is happening each time?

5, 10, 15, 20,

→ → 35

Can you figure out what the next numbers in this sequence would be?

$$15 + 5 = 20$$



My 0 to 30 number line



What is happening each time?

5, 10, 15, 20, , ,

+5 +5 +5 +5 +5 +5

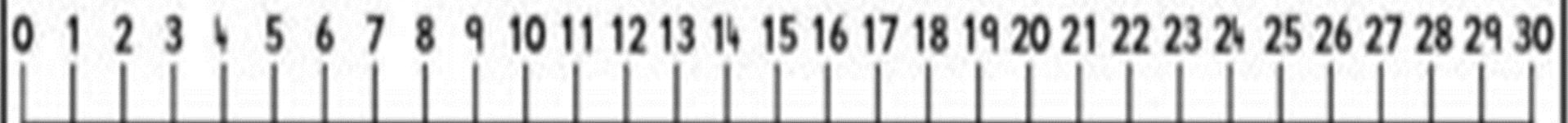
25 30 35

Can you figure out what the next numbers in this sequence would be?

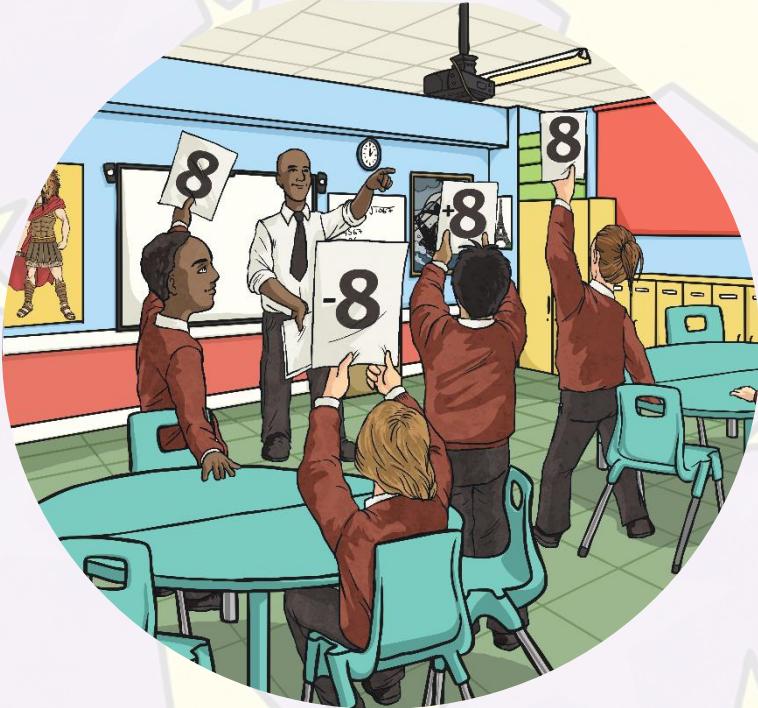
15 + 5 = 20



My 0 to 30 number line



**Number sequences can use:
addition, subtraction, multiplication or division.
Today we are going to be focusing on
addition and subtraction to find patterns!**



**Let's look at
some
trickier
sequences!**

Can you finish this number sequence?



-1 -2 -3 -4 -5
48, 47, 45, 42, ___, ___.

What happens to get from **48** to **47**?

What happens to get from **47** to **45**?

What happens to get from **45** to **42**?

What number will come after **42**?

What number will come after **38**?

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Can you finish this number sequence?

48, 47, 45, 42, 38, 33.

What happens to get from **48** to **47**?

What happens to get from **47** to **45**?

What happens to get from **45** to **42**?

What number will come after **42**?

What number will come after **38**?



Your Turn to practice!

Can you figure out the missing numbers and the rule in these sequences?



1. 13, 17, 21,

— — — —

2. 95, 85, 75, 65, 55, 45,

— — —

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Check your Answers!

The rule in the sequences are

1. 13, 17, 21, 25, 29

rule = add 4

2. 95, 85, 75, 65, 55, 45, 35

rule = subtract 10

Let's try some more sequences!

Find the **rule** and complete
the **pattern**.

Number Pattern Part - 5

+2 +2 +2 +2 +2

12, 14, 16, 18, 20, 22

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Find the rule of the number sequence and complete the pattern

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

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|----|----|----|----|----|----|----|----|----|----|

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|----|----|----|----|----|----|----|----|----|-----|

1 20 , 30 , 40, _____, _____, _____, _____, 90

2 2 , 4 , 6 , _____, 10 , _____, 14 , _____

3 90 , 80 , 70 , 60 , _____, _____, 30

4 5 , 10 , 15 , _____, 25 , _____, _____

5 14 , 12 , 10 , _____, 6 , _____, _____

6 30 , _____, 50 , 60 , 70 , _____, _____, 100

Check your answers!

1 $20, 30, 40, \underline{50}, \underline{\quad}, \underline{60}, \underline{\quad}, \underline{70}, \underline{\quad}, \underline{80}, \underline{\quad}, 90$

+ 10

2 $2, 4, 6, \underline{8}, 10, \underline{12}, 14, \underline{16}$

+ 2

3 $90, 80, 70, 60, \underline{50}, \underline{40}, \underline{\quad}, 30$

-10

4 $5, 10, 15, \underline{20}, 25, \underline{30}, \underline{\quad}, \underline{35}$

+ 5

5 $14, 12, 10, \underline{8}, 6, \underline{4}, \underline{\quad}, \underline{2}$

-2

6 $30, \underline{40}, 50, 60, 70, \underline{80}, \underline{90}, \underline{\quad}, 100$

+10

Let's make it spicy!
Use your knowledge of the
2- and 5-times tables
to complete these
number sequences!



Counting in 2s Activity

Complete the following sequences:

a) 2 4 6 ----- 10 -----

f) ----- 44 42 ----- 38 36

b) 24 22 ----- 18 ----- 14

g) 12 14 ----- 18 ----- 22

c) ----- 26 28 30 ----- 34

h) 20 ----- 14 12 10

d) 46 ----- 40 38 36

i) ----- 56 58 60 62

e) 28 ----- 32 34 ----- 38

j) 74 72 ----- ----- 66 64

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

LO: Counting in 5s

Complete the following sequences:

a) 5 10 15 ----- 25 -----

f) ----- 50 45 ----- 35 30

b) 35 30 ----- 20 ----- 10

g) 35 40 ----- 50 ----- 60

c) ----- 25 30 35 ----- 45

h) 65 ----- 50 45 40

d) 45 ----- 30 25 20

i) ----- 35 40 45 50

e) 15 ----- 25 30 ----- 40

j) 75 70 ----- 55 50

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Check your Answers!

Counting in 2s Activity

Complete the following sequences:

a) 2 4 6 8 10 **12**

f) **46** 44 42 **40** 38 36

b) 24 22 **20** 18 **16** 14

g) 12 14 **16** 18 **20** 22

c) **24** 26 28 30 **32** 34

h) 20 **18** **16** 14 12 10

d) **46** **44** **42** 40 38 36

i) **52** **54** 56 58 60 62

e) 28 **30** 32 34 **36** 38

j) 74 72 **70** **68** 66 64

LO: Counting in 5s Answers

Complete the following sequences:

a) 5 10 15 **20** 25 30

f) **55** 50 45 **40** 35 30

b) 35 30 **25** 20 **15** 10

g) 35 40 **45** 50 **55** 60

c) **20** 25 30 35 **40** 45

h) 65 **60** **55** 50 45 40

d) 45 **40** **35** 30 25 20

i) **25** **30** 35 40 45 50

e) 15 **20** 25 30 **35** 40

j) 75 70 **65** **60** 55 50

Plenary

A number pattern is a sequence of numbers that can follow a certain rule. Sometimes you can add or subtract!

This is a number pattern:

1, 2, 3, 4, 5, 6



$$\begin{array}{r} 1 \\ 2 \\ + \\ 3 \\ \hline \end{array}$$

The rule is
add 1 each
time



Super Effort

Well Done!