Greek Orthodox Patriarchate School
International - Fuhies

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Worksheet

Name:		Subject:	Math- practice sheet #2 sequences
Class:	Grade 5	Date:	

Q1) Here is a part of a sequence.

4, **8**, **12**, **16**, 20, 24, 28 .....

The sequence continues in the same way.

Complete the sequence, then answer the following questions.

a) Write down the 1st term of the sequence.....4.....

b) Write down the 5th term of the sequence.....20.....

c) Write down the 6th term of the sequence.....24.....

d) Write down the 10th term of the sequence.....40.....

e) Write down the 20th term of the sequence.....4x20=80.....

f) What is the term-to-term rule?.....adding 4.....

g) What is the position to term rule?.....multiplying by 4.....

Q2) Complete the following sequences:

5, 0, -5, ___-10___, ___-15___, ___-20___, ___-25___. **Term to term rule** ___- 5___

20, 10, 0, ___-10___, ___-20___, ___-30___, ___-40___. **Term to term rule** ___-10___

7, 5, 3, ___1___, ___-1___, ___-3___, ___-5___. **Term to term rule** ___-2___

11, 8, 5, ___2___, ___-1___, ___-4___, ___-7___. **Term to term** ___-3___

4, 2, 0, ___-2___, ___-4___, ___-6___, ___-8___. **Term to term** ___-2___

Q3) Here is a part of a sequence.

5	10	15	20	25	30	35

The sequence continues in the same way.

Complete the sequence, then answer the following questions.

a) Write down the 5th term of the sequence…25……..

b) Write down the 8th term of the sequence……40……..

c) Write down the 10th term of the sequence……50……..

d) Write down the 20th term of the sequence……100……..

e) Lily says that the number 520 will be in the sequence,

Do you think she is right?

☑ **Yes** ☐ **No**

Explain your answer.

this is the multiples of 5 sequence and multiples of 5 end with 0 or 5, so 520 is a multiple of 5

Q4) Write the sequence of square numbers. (1-144).

1,4,9,16,25,36,49,64,81,100,121,144

Q5) Write the sequence of triangular numbers. (1-55)

1,3,6,10,15,21,28,36,45,55

Q6) Write the sequence of the cube numbers. (1-125)

1, 8, 27, 64, 125

Q7) Circle all the cube numbers.

1 4 **8** 25 16 **27** 49 **64** 100 **125**

Q8) Write a square number in each box to make the statement correct.

16	+	9	=	25

or 64 + 36 = 100

Q9) April 2023 p1

Safia starts at 52 and counts backwards in sevens.
Mia starts at –10 and counts forwards in nines.

Write the number that they both say.

Safia's sequence: 52, 45, 38, 31, 24, 17, 10, 3.....
Mia's sequence: -10, -1, 8, 17 .....

17 [1]

Q10) April 2023 p1

Here is part of a sequence.

1.9	1.6	1.3	1	0.7	0.4
	2nd term				6th term

The sequence is made by subtracting a constant amount from the previous term.

Write the 8th term.
Show your working.

by trial we found out that the term-to-term rule is subtracting 0.3

so the 7th term id 0.1
and the 8th term is -0.2

-0.2 [2]

Q11) April 2023 p2

Here is a table showing the position and the terms of a sequence.

Complete the table.

Position	Term
1	7
2	14
3	21
10	70
15	105
50	350

position to term rule is multiplying by 7

if we have the term but we want to find the position we do the opposite of the rule
opposite of multiplication is division
350/7= 50

[2]

Q12) April 2023 p2

Add together the 3rd square number and the 5th square number.

9+25=34

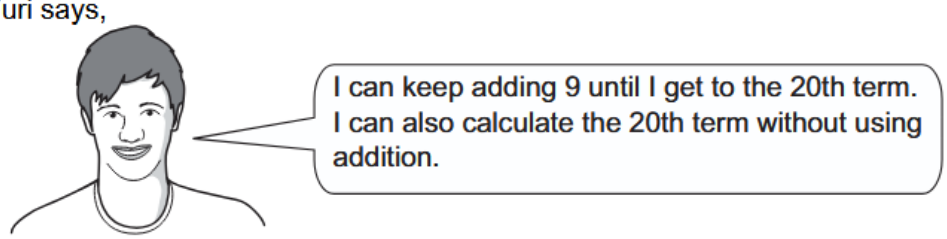
34 ..... [1]

Q13) April 2024 p2

Here are the first five terms in a number sequence.

9 18 27 36 45

Yuri says,



Write a **calculation** to show how to calculate the 20th term in the sequence **without** using addition.

9x20=180 ..... [1]

Q14) April 2024 p2

Hassan makes a sequence by halving square numbers.
He records the numbers in a position-to-term table.

Position	Term
1st	$\frac{1}{2}$
2nd	2
3rd	$4\frac{1}{2}$
4th	8

Write the 8th term in the sequence.

the 8th square number is 64
now halve 64 by dividing by 2
the answer is 32

32 ..... [1]

Q15) Oct 2023 p2

Here is part of a sequence.

23, 17, 11, ... 5, -1, -7, -13, -19, -25, -31, -37, -43, -49

The sequence continues in the same way.

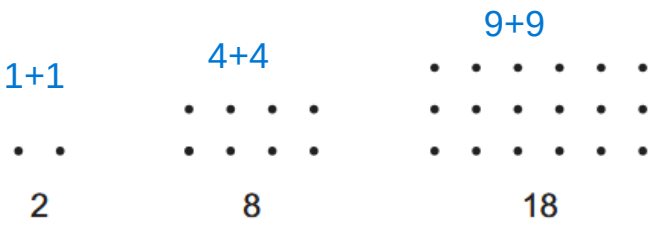
Draw a ring around **all** the numbers that are in the sequence.

7 −2 −7 −35 −49

[1]

Q16) Oct 2023 p2

Here are the first three terms of a sequence.
Each term is made from the sum of a pair of square numbers.



sum of pairs of square numbers means adding the same number to itself

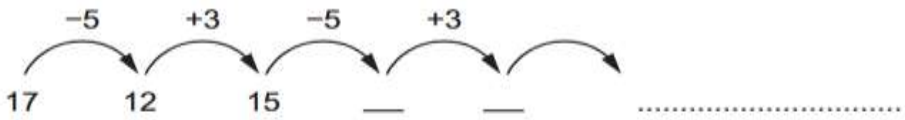
so to find the 6th term we add the 6th square number + 6th square number 36+36

The sequence continues in the same way.

Write the 6th number in the sequence. 72

Q17) Oct 2024 p1

The sequence continues in the same way.



Rajiv says, 'The number –2 is in my sequence.'

Tick (✓) to show if Rajiv is correct.

☑ Yes ☐ No

Explain how you know.

the sequence will continue this way, 10, 13, 8, 11, 6, 9, 4, 7, 2, 5, 0, 3, -2

so yes -2 is in the sequence [1]

Q18) Oct 2024 p2

Jamila writes the sequence of square numbers.

1 4 9 …

She makes a **new** sequence by squaring each number in the sequence.

1 16 81 …

Write the 7th term in her **new** sequence.

in the new sequence we are squaring each square number to get each term
so to get the 7th term we square the 7th square number
the 7th square number is 49
so the square of 49 is 49x49 = 2401 [1]

Q19) April 2025 p1

Here is part of a sequence.

The sequence continues in the same way.

34 27 20 13, 6, -1, -8, -15

Write the number in the sequence that is between –10 and –20

-15 [1]

Safia writes a sequence by counting in steps of 3
The 8th term in her sequence is 32

Gabriella writes a different sequence by counting in steps of 5
The 8th term in her sequence is 64

Write the difference between the first terms in their sequences.

to find the first term of each we go back in the sequence by doing opposite operation
Safia's sequence
11 14 17 20 23 26 29 32
first 8th

the difference means big - small
29-11=18

29 34 39 44 49 54 59 64
first 8th

18 [2]

Factors and multiples

Q20) Find all the factors of the following numbers.

a) 15

1, 3, 5, 15

b) 24

1, 2, 3, 4, 6, 8, 12, 24

c) 30

1, 2, 3, 5, 6, 10, 15, 30

d) 12

1, 2, 3, 4, 6, 12

Q21)

a) Find all the common factors of 12 and 15

1,3

Find the GCF (Greatest common factor) of 12 and 15.

3

b) Find all the common factors of 15 and 30

1,3,5,15

Find the GCF (Greatest common factor) of 15 and 30.

15

c) Find all the common factors of 6 and 9

1,3

Find the GCF (Greatest common factor) of 6 and 9.

3

Prime numbers are the numbers that has only 2 factors 1 and the number itself.

Prime Numbers

A natural number greater than 1 with no divisors other than 1 and itself.

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

Remember these facts about Prime Numbers!

There are no even numbers except 2.

There are no prime numbers ending in 5, except 5.

The digits can't add up to 3 except 3 (digital root).

Composite numbers: the numbers that has more than 2 factors.

Q22) Circle all the prime numbers

1 2 6 8 9 10 11 15 17 36 37

Q23) a) Find the first three common multiples of 4 and 5.

Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40

Multiples of 5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

The first common multiple: 20

The first three common multiples: 20, 40, 60,

****Important note: to find the first n common multiples first we list the first 10 multiples then we find the first common multiple and count by the first common multiple.**

b) Find the first three common multiples of 3 and 7.

Multiples of 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

Multiples of 7: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70

The first common multiple: 21

The first three common multiples: 21, 42, 63,

c) Find the first three common multiples of ~~6~~ 2 and 10.

Multiples of 2: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

Multiples of 10: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

The first common multiple: 10

The first three common multiples: 10, 20, 30,

Q24) April 2023 p1

(a) Here is a list of numbers.

1 3 7 11 13 17 21 23 27

Draw a ring around a common **multiple** of 3 and 7 [1]

(b) Here is a list of numbers.

2 4 6 22 24 26 32 34 36

Draw a ring around a common **factor** of 4 and 6 [1]

Divisibility

Understanding divisibility rules can help you quickly determine if a number can be divided by another number without leaving a remainder. These rules are shortcuts that make math easier and faster! For example, knowing if a number is divisible by 2, 3, 4, 5, 6, or 9 helps when simplifying fractions, finding factors, and solving math problems.

- **A number is divisible by 2 if it ends in 0, 2, 4, 6, or 8.**
- **A number is divisible by 3 if the sum of its digits is divisible by 3.**
- **A number is divisible by 4 if the last two digits form a number divisible by 4.**
- **A number is divisible by 5 if it ends in 0 or 5.**
- **A number is divisible by 6 if it is divisible by both 2 and 3.**
- **A number is divisible by 9 if the sum of its digits is divisible by 9.**

Q25) Fill in the blank with the correct words.

1. **A number is divisible by 5 if it ends in** 0 **or** 5**.**
2. **If the sum of a number's digits is divisible by** 3 or 9**, then the whole number is divisible by that number.**
3. **A number is divisible by 2 if its last digit is** even**.**
4. **A number is divisible by 4 if the last** two **digits form a number divisible by 4.**
5. **If a number is divisible by both 2 and 3, then it is divisible by** 6**.**
6. **Tick all the numbers that are divisible by the number on the left.**

Number	sum of digits	By 2	By 3	By 4	By 5	By 6	By 9	By 10
3500	8	✓		✓	✓			✓
8154	18	✓	✓			✓	✓	
753	15		✓					
250	7	✓			✓			✓
6933	21		✓					
252	9	✓	✓	✓		✓	✓	
8444	20	✓		✓				

Q26) April 2023 p1

Chen has four digit cards.
He says,

'All the numbers I could make with my four cards are 4-digit numbers that are divisible by 6'

divisible by 6 means divisible by 2 & 3

all of the digits should be even (because he said all the numbers I can make) that means we should put the possibility of changing their places to create new numbers
also the sum of all the digits must be a multiple of 3

Write four numbers that Chen could have on his cards.

2	4	4	2

[1]

any 4 even numbers that has the sum of a multiple of 3 is accepted

Q27) April 2023 p1

Rajiv and Carlos each choose a set of three prime numbers.
The total of each set of numbers is 30

(a) Write three numbers that Rajiv could choose.

17 ..... 11 ..... 2 .....

[1]

(b) Write the number that both Rajiv and Carlos **must** have in their set.

2 .....

Explain your answer.

30 is an even number, 2 is the only even prime number,

if we picked 3 odd numbers odd+odd+odd= odd

so to make my answer even I need one even number [1]

Q28) April 2024 p1

Carlos uses digit cards to make a four-digit number.
The number is divisible by 9

the sum of the digits must be a multiple of 9

Write the missing digit in the box.

3	1	4	1

[1]

Q29) April 2024 p2

Write a two-digit number ending in 7 that is a prime number.

67

Write a two-digit number ending in 7 that is **not** a prime number.

27

[1]

Q30 April 2025 p1

A factory makes 9512 tiles.

Ahmed says, 'I can divide the tiles equally between 4 boxes.'

Tick (✓) to show if Ahmed is correct.

Yes [✓] No [ ]

Explain how you know.

he can because 9512 is divisible by 4 since the last 2 digits form a 12

and 12 is a multiple of 4

[1]

Q31) April 2025 p1

Write **all** the 4-digit numbers between 3310 and 3325 that are divisible by 9

find the first multiple of nine after 3310 then add 9

3312 , 3321

[1]

Q32) April 2025 p1

Here is a sequence.

The sequence continues the same way.

Position	1	2	3	4	5
Term	4	8	12	16	20

Write the **position** of the first term in this sequence that is greater than 100 and is divisible by 6

$$4\overline{)108}\quad 27$$
$$-8$$
$$28$$
$$-28$$
$$0$$

we find the first number that is divisible by 6 after 100 (should be even and the sum of its digits is a multiple of 3
and it should be a multiple of 4 as well since this is the sequence of multiples of 4
104 is divisible by 4 not by 6 so add another 4
108 is divisible by 4 and 6
now we find the position by dividing 108 by 4

27 [1]

Q33) April 2025 p1

Complete the table.

	Common factor	Common multiple
4 and 10	2	20
5 and 10	5	30

[2]

Q34) Oct 2023 p1

Lily has four digit cards.

3	4	5	6

Lily uses the cards to make a 3-digit number that is divisible by 6

Write **all** the different numbers Lily could make.

354, 534, 456, 546, 564, 654

[2]

Q35) Oct 2024 p1

Here are four digits.

1 1 2 6

Use **all** the digits to write a four-digit number that is divisible by 4

1216

..... [1]

Q36) Oct 2024 p1

Draw a ring around **each** of the numbers that are factors of 2664

2 3 4 5 6 8 9 10

[2]

333
8 | 2664
24
26
24
24
24
0

Q37) Oct 2024 p2

(a) Write the **largest** number that is a factor of both 36 and 48

factors of 36: 1,2,3,4,6,9,12,18,36

factors of 48: 1, 2, 3, 4, 6,8,12,16,24,48

12

.....

[1]

(b) Write the **smallest** number that is a multiple of both 36 and 48

we can use a calculator

36: 36, 72, 108, 144, 180, 216

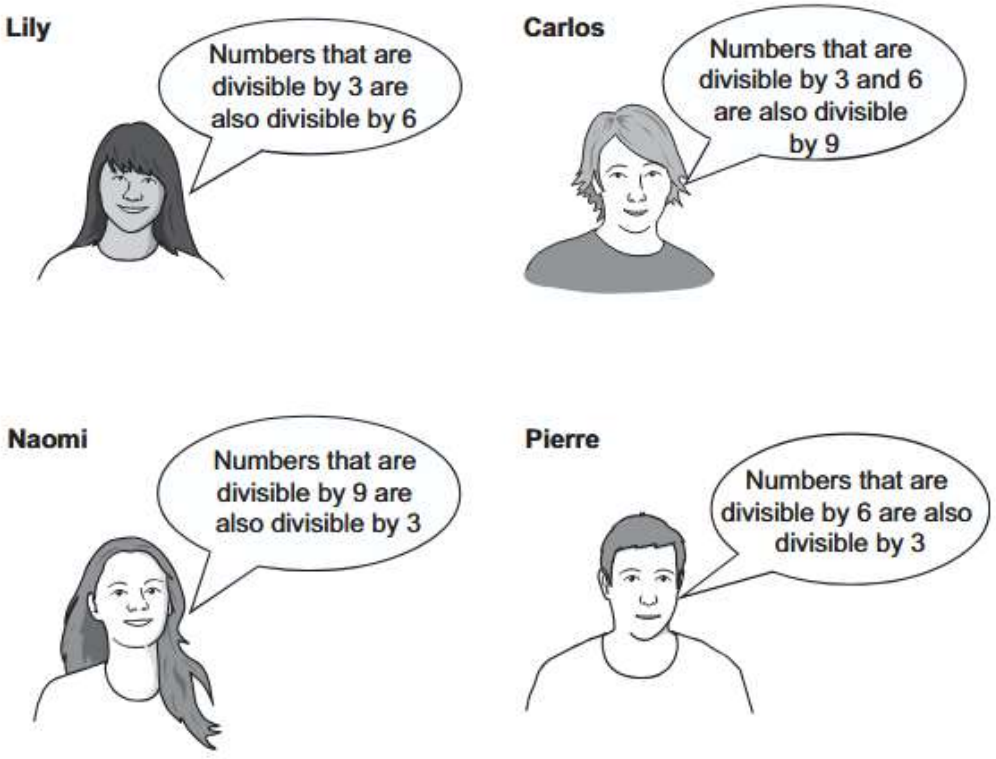
48: 48, 96, 144

144

.....

[1]

Q38) These children make some statements about numbers.



Write the names of the children who are correct.

Naomi and Pierre

..... [2]

Q39) Oct 2024 p1

Lily and Samira count on in steps of constant size.

They both start at the **same** number.

Here is part of Lily's sequence.

1st number	2nd number	3rd number	4th number
3	7	11	15

the rule is 15-7= 8 divide 8 by 2 (number of jumps) =4 so we are adding 4 each time

since the questions says they started by the same number so the second sequence starts with 3

Here is part of Samira's sequence.

1st number	2nd number	3rd number	4th number
3	4.5	6	7.5

Write the 4th number in Samira's sequence.

the rule of the second sequence is 6-3 = 3
now divide by 2 (number of jumps) = 1.5

7.5

..... [1]

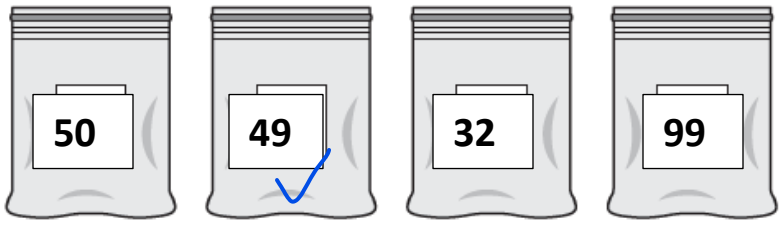
Q40)

Hassan has some bags of unit cubes.
The labels show the number of unit cubes in each bag.

Hassan chooses one bag.
He uses **all** the cubes in the bag to make a larger cube.

Tick (✓) the bag Hassan chooses.

Hassan has some bags of **Squares** .
The labels show the number of **Squares in** each bag.



Hassan chooses one bag.
He uses **all** the **Squares in the bag** to make a larger **Square**

Tick (✓) the bag Hassan chooses.

Q41)

Calculate the difference between 5^3 and 5^2

125-25 100