Warm Up Grade 7

Oct. 31, 2022

1)

Term #	1	2	3	4	5	. . . .	100
Term	21	23	25	27	29		

up 1

up 2

2n + 19

check

n = 1

2(1)

2

out = 21

add 19

a) How is the term related to the term number?

As term # increases by 1, the term increase by 2.

b) Let n represent any term number. Write the relation for the term

$2n + 19$

c) What is the 100^{th} term?

n

Term = $2n + 19$

$2(100) + 19$

$200 + 19$

219

Homework Solutions Sheet 12 Unit 1 Grade 7 Extra Practice

1) For each of the following charts,
i) Fill in the missing numbers.
ii) Write the relations as an algebraic expression
iii) Describe the relation in words

a)

Term Number	1	2	3	4	5	6
Term	5	10	15	20	25	30

ii) 5n

iii) The term is 5 times the term number

b)

Term Number	1	2	3	4	5	6
Term	5	6	7	8	9	10

ii) n + 4

iii) The term is 4 more than the term number

c)

Term Number	1	2	3	4	5	6
Term	3	6	9	12	15	18

ii) 3n

iii) The term is 3 times the term number

d)

Term Number	1	2	3	4	5	6
Term	6	12	18	24	30	36

ii) 6n

iii) The term is 6 times the term number

e)

Term Number	1	2	3	4	5	6
Term	10	11	12	13	14	15

ii) n + 9

iii) The term is 9 more than the term number

Homework Solutions Sheet 12 Unit 1 Grade 7 Extra Practice

2) a) For Part 1d) find the value of the 12^{th} term. (Use algebraic expression to get answer)

$6n$, where $n = 12$

$= 6(12)$

$= 72$

b) For part 1e) find the value for the 20^{th} term. (Use algebraic expression to get answer)

$n+9$, where $n = 20$

$= (20) + 9$

$= 29$

3) Jim is walking in a marathon across New Brunswick. His goal is to walk 12 km per day.

a. Complete a chart of Jims total distance related to number days for the first 6 days.

Days	1	2	3	4	5	6
Distance	12	24	36	48	60	72

b. Write the relation of days to kilometers as an algebraic expression using "d".

$12d$

c. Explain the relation in words.

Distance = number of days times 12

Homework Solutions Sheet 12 Unit 1 Grade 7 Extra Practice

4) a) Write the perimeter of the regular pentagon as an algebraic expression if each side has a length of "n".

5n

b) Find the perimeter if the length of the side of the regular pentagon is 9 cm.

5n where n=9

= 5(9cm)

= 45 cm

8p + 100

5) Ted is having a party. The cost to rent the hall is $100 and the cost for food is $8 per person.

a. Create a chart that relates the number people to the total cost.

Person	1	2	3	4	5	6
Cost	108	116	124	132	140	148

b. Write out the relations as an algebraic expression.

8n +100

c. Write the relation in words.

Cost is equal to 8 times the number of people plus 100

d. What is the total cost when 20 people are invited? (Show work)

8n +100, where n = 20

8(20) + 100

160 + 100

260

e. What is the total cost when 50 people are invited? (Show work)

8n +100, where n = 50

8(50) + 100

400 + 100

500

f. What is the new expression if the cost of food doubles?

16n +100

g. What is the new expression if the food increases by $2 per person?

10n +100

Homework Solutions Sheet 12 Unit 1 Grade 7 Extra Practice

6) **SIMPLIFY** then evaluate each of the following:

a. $6f + 7k - 4f + 8 - 2f + 10f + 2k$, $k = 3$ & $f = 10$

$= 6f - 4f - 2f + 10f + 7k + 2k + 8$

$= 10f + 9k + 8$

Sub in values

$= 10(10) + 9(3) + 8$

$= 100 + 27 + 8$

$= 135$

b) $4ab + 6ab - 2 + 6b$; $a=2$ & $b=5$

$= 10ab + 6b - 2$

$= 10(2)(5) + 6(5) - 2$

$= 100 + 30 - 2$

$= 128$

c) $11p - 7k + 2p + 10$; $p = 6$ & $k = 4$

$= 11p + 2p - 7k + 10$

$= 13p - 7k + 10$

sub in values

$= 13(6) - 7(4) + 10$

$= 78 - 28 + 10$

$= 60$

Homework Solutions Sheet 12 Unit 1 Grade 7 Extra Practice

7) Write an algebraic expression for each of the following. (Remember to define your letter for the variable)

let "n" represent the number

a) 18 more than a number. n + 18

b) A number subtract 15 n - 15

c) The product of a number and 7 7n

d) The quotient of a number and 3. n/3

e) 5 more than a tripled number 3n + 5

f) A number subtracted from 56 56 - n

g) Double a number and subtract 6. 2n - 6

8) Write the expression as words

a. 15 – n a number is subtracted from 15 or 15 subtract a number

b. b) 17+k

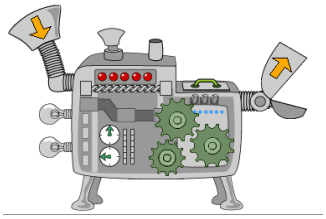
17 more than a number

c. c) 5n +6

5 times a number plus 6

Section 1.5

Patterns & Relationships in Tables



Input & Output Charts

This input/Output relates n and 2n+1

Show work

2n + 1

REMEMBER

"Order of operation"

2n + 1

Input	Output
1	3
2	5
3	7
4	9
5	11
6	13

n = 1: 2n + 1, 2(1) + 1, 2 + 1, 3

n = 2: 2n + 1, 2(2) + 1, 4 + 1, 5

n = 3: 2n + 1, 2(3) + 1, 6 + 1, 7

You Try

2n - 3

Input	Output
1	-1
2	1
3	3
4	5
5	7
6	9

n = 1
2n - 3
2(1) - 3
2 - 3
-1

n = 2
2n - 3
2(2) - 3
4 - 3
1

n = 3
2n - 3
2(3) - 3
6 - 3
3

What is the relation for the following table?

Input	Output
1	2
2	5
3	8
4	11
5	14
6	17

up 3 → 3n-1

3n-1

Check
n = 1
3(1)
3

out 2
subtract!

copy out the charts for each

Class work

pg. 27 # 1(a,b,c)

2(a,b,c)

(3a,b) (show work)