

Math Test



Warm Up Grade 7



Oct. 31, 2023

1) For each of the following charts,

i) Write the relations as an algebraic expression

$$2n + 5$$

ii) Describe the relation in words

a)

Term Number	1	2	3	4	5	6
Term	7	9	11	13	15	17

i) As Term # increases by 1, the term increases by 2.   
 Check  $n=1$  out = 7   
 $\frac{2n}{2} \rightarrow 2n$  add 5

2) The local paper is organizing a Halloween supper. The cost rent a hall is \$80 The cost of food is \$10 for each person.

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

#of people	1	2	3	4	5	6
Total Cost	90	100	110	120	130	140

$$10p + 80$$

$P=1$   
 $10(1) + 80$   
 $10 + 80$   
 $90$

$P=2$   
 $10(2) + 80$   
 $20 + 80$   
 $100$

$P=3$   
 $10(3) + 80$   
 $30 + 80$   
 $110$

b. Write the relation of people to total cost as an algebraic expression using "p".

$$\underbrace{10p}_{\text{food}} + \underbrace{80}_{\text{hall}}$$

c. How much would it cost if 40 people attend the supper? (SHOW YOUR WORK)

$$10(p) + 80$$

$$10(40) + 80$$

$$400 + 80$$

$$480$$

The total cost for 40 people would be \$480.

d. If the cost of food doubles what would be the new expression?

$$20p + 80$$

3) Evaluate each of the following: (Show work)

a.  $4x+10$  if  $x=6$

$$4(6) + 10$$

$$24 + 10$$

$$34$$

b)  $2n - 3$  if  $n = 10$

$$2(10) - 3$$

$$20 - 3$$

$$17$$

4) Simplify THEN Evaluate

a)  $3t + 7m + 5t - 2m + 10$ ,  $t = 2$  and  $m = 7$

$$3t + 5t + 7m - 2m + 10$$

$$8t + 5m + 10$$

$$8(2) + 5(7) + 10$$

$$16 + 35 + 10$$

$$61$$

5) Write an algebraic expression for the following. (Remember to define you variable.)

let  $n \equiv$  a number

a) a product of 7 and a number.

$$7 \times n, 7n, n \times 7$$

b) a number reduced by 5

$$n - 5$$

c) a number subtracted from 11

$$11 - n$$



1. Copy and complete each table.

Explain how the Output number is related to the Input number.

a)

Input $x$	Output $2x$
1	2
2	4
3	6
4	8
5	10

outputs number is double the input number

b)

Input $m$	Output $10 - m$
1	9
2	8
3	7
4	6
5	5

IF you add the output and input you get 10

c)

Input $p$	Output $3p + 5$
1	8
2	11
3	14
4	17
5	20

The output is 3 times the input plus 5

2. Use algebra. Write a relation for each Input/Output table.

a)

Input $n$	Output
1	7
2	14
3	21
4	28

$7n$

b)

Input $n$	Output
1	4
2	7
3	10
4	13

$3n + 1$

c)

Input $n$	Output
1	1
2	3
3	5
4	7

double  $n$  then subtract 1  
 $2n - 1$

3. **Assessment Focus** For each table, find the output.

Explain how the numbers 3 and 4 in each relation affect the output.

a)

Input $n$	Output $2n + 4$
1	7
2	10
3	13
4	16

multiply by 2  
then add 4

b)

Input $n$	Output $4n + 3$
1	7
2	11
3	15
4	19

multiply by 4, then add 3  
The order of the operation  
is important



11

0 2 1 2

$6x - 5$