



This week we will be exploring NUMBER PATTERNS with the Grade 4 learners. A number pattern is a sequence of numbers that follow a certain rule. Please scroll through the images for an example as well as three different sets of questions.

For example:

Pattern	Rule	Proof
1, 2, 3, 4, 5	Add 1	$1+1=2+1=3+1=4+1=5$
50, 40, 30, 20, 10	Subtract 10	$50-10=40-10=30-10=20-10=10$

QUESTIONS:

Write the next number in the sequence. Then write what the rule and proof is for this sequence

Pattern	Rule	Proof
2, 4, 6, 8, 10, 12, ___		
3, 6, 9, 12, 15, 18, ___		
23, 20, 17, 14, 11, 8, ___		
4, 14, 24, 34, 44, 54, ___		
52, 44, 36, 28, 20, 12, ___		
7, 14, 21, 28, 35, 42, ___		

Write the next number pattern and proof according to the rule

Rule	Pattern	Proof
Add 5	55, ___, ___, ___, ___, ___, ___	
Subtract 11	88, ___, ___, ___, ___, ___, ___	
Add 9	3, ___, ___, ___, ___, ___, ___	
Subtract 6	36, ___, ___, ___, ___, ___, ___	
Add 7	22, ___, ___, ___, ___, ___, ___	
Subtract 8	80, ___, ___, ___, ___, ___, ___	

Write the next number pattern and rule according to the proof

Proof	Pattern	Rule
$24-4=20-4=16-4=12-4=8-4=4-4=0$		
$6+5=11+5=16+5=21+5=26+5=31+5=36$		
$89-3=86-3=83-3=81-3=78-3=75-3=72$		
$112+10=122+10=132+10=142+10=152+10=162+10=172$		
$63-7=56-7=49-7=42-7=35-7=28-7=21$		
$2+12=14+12=26+12=38+12=50+12=62+12=74$		

MEMORANDUM

Write the next number in the sequence. Then write what the rule and proof is for this sequence

Pattern	Rule	Proof
2, 4, 6, 8, 10, 12, <u>14</u>	Add 2	$2+2=4+2=6+2=8+2=10+2=12+2=14$
3, 6, 9, 12, 15, 18, <u>21</u>	Add 3	$3+3=6+3=9+3=12+3=15+3=18+3=21$

23, 20, 17, 14, 11, 8, <u>5</u>	Subtract 3	$23-3=20-3=17-3=14-3=11-3=8-3=5$
4, 14, 24, 34, 44, 54, <u>64</u>	Add 10	$4+10=14+10=24+10=34+10=44+10=54+10=64$
52, 44, 36, 28, 20, 12, <u>4</u>	Subtract 8	$52-8=44-8=36-8=28-8=20-8=12-8=4$
7, 14, 21, 28, 35, 42, <u>49</u>	Add 7	$7+7=14+7=21+7=28+7=35+7=42+7=49$

Write the next number pattern and proof according to the rule

Rule	Pattern	Proof
Add 5	55, 60, 65, 70, 75, 80, 85	$55+5=60+5=65+5=70+5=75+5=80+5=85$
Subtract 11	88, 77, 66, 55, 44, 33, 22	$88-11=77-11=66-11=55-11=44-11=33-11=22$
Add 9	3, 12, 21, 30, 39, 48, 57	$3+9=12+9=21+9=30+9=39+9=48+9=57$
Subtract 6	36, 30, 24, 18, 12, 6, 0	$36-6=30-6=24-6=18-6=12-6=6-6=0$
Add 7	22, 29, 36, 43, 50, 57, 64	$22+7=29+7=36+7=43+7=50+7=57+7=64$
Subtract 8	80, 72, 64, 56, 48, 40, 32	$80-8=72-8=64-8=56-8=48-8=40-8=32$

Write the next number pattern and rule according to the proof

Proof	Pattern	Rule
$24-4=20-4=16-4=12-4=8-4=4-4=0$	24, 20, 16, 12, 8, 4, 0	Subtract 4
$6+5=11+5=16+5=21+5=26+5=31+5=36$	6, 11, 16, 21, 26, 31, 36	Add 5
$89-3=86-3=83-3=80-3=77-3=74-3=71$	89, 86, 83, 80, 77, 74, 71	Subtract 3
$112+10=122+10=132+10=142+10=152+10=162+10=172$	112, 122, 132, 142, 152, 162, 172	Add 10
$63-7=56-7=49-7=42-7=35-7=28-7=21$	63, 56, 49, 42, 35, 28, 21	Subtract 7
$2+12=14+12=26+12=38+12=50+12=62+12=74$	2, 14, 26, 38, 50, 62, 74	Add 12