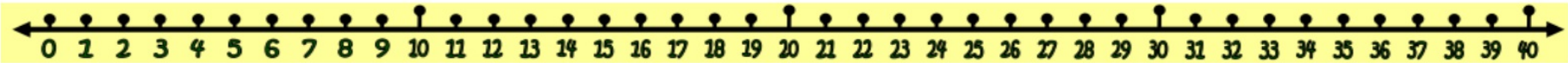
Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Number Sequences

Add
Subtract
Times
More
than
less than
algebra
multiple

I can explain my reasoning and conclusions, using symbols to represent unknown numbers



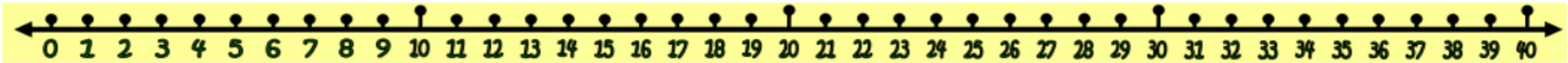
Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Number Sequences

Add
Subtract
Times
More than
less than
algebra
multiple

What are the next 3 numbers in these sequences?

1) 3, 6, 9, 12, 15, ____, ____, ____
2) 6, 12, 18, 24, 30, ____, ____, ____
3) 12, 24, 36, 48, 60, ____, ____, ____
4) 6, 11, 16, 21, 26, 31, ____, ____, ____
5) 10, 17, 24, 31, 38, ____, ____, ____



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Number Sequences

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Subtract
Times
More than
less than
algebra
multiple

What are the next 3 numbers in these sequences?

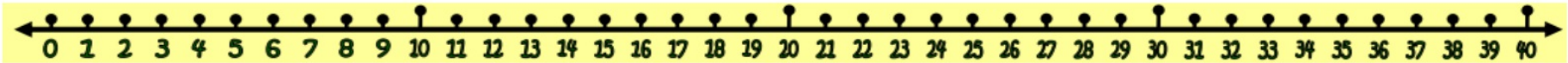
1) 3, 6, 9, 12, 15, 18, 21, 24

2) 6, 12, 18, 24, 30, 36, 42, 48

3) 12, 24, 36, 48, 60, 72, 84, 96

4) 6, 11, 16, 21, 26, 31, 36, 41, 46

5) 10, 17, 24, 31, 38, 45, 52, 59



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Number Sequences

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Times
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than
less than
algebra
multiple

What are the missing 2 numbers in these sequences?

1) 5, ____, 15, 20, 25, ____, 35

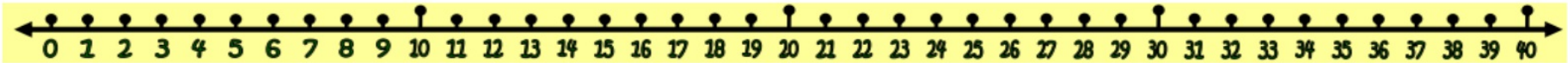
2) ____, 18, 27, 36, ____, 54, 63

3) 4, ____, ____, 13, 16, 19, 22

4) 45, 39, ____, 27, 21, ____, 9

5) 8, ____, 20, ____, 32

6) ____, 54, ____, 32, 21



Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Number Sequences

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Times
More
than
less than
algebra
multiple

What are the missing 2 numbers in these sequences?

1) 5, 10, 15, 20, 25, 30, 35

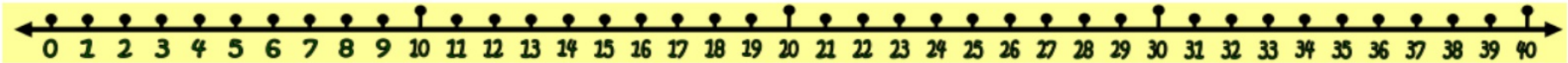
2) 9, 18, 27, 36, 45, 54, 63

3) 4, 7, 10, 13, 16, 19, 22

4) 45, 39, 33, 27, 21, 15, 9

5) 8, 14, 20, 26, 32

6) 65, 54, 43, 32, 21



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algebra
multiple

Look at this sequence:

6, 12, 18, 24, 30, 36

It is the 6x table

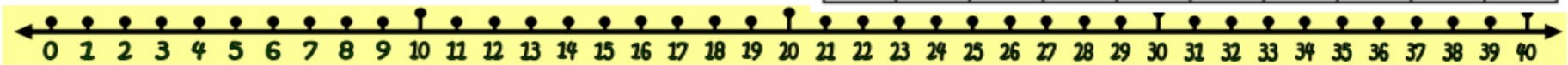
The rule could be written as

6n

This means 6 x n. N is the number in the sequence

So, the 3rd number is 6 x n = 18

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



Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Number Sequences

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multiple

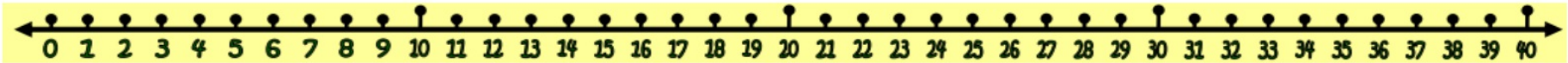
What is the rule for this sequence?

4, 8, 12, 16, 20

What would be the 10th number?

What would be the 15th number?

What would be the 50th number?



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What is the rule for this sequence?

4, 8, 12, 16, 20 4n

What would be the 10th number?

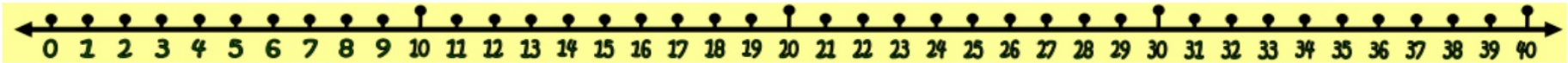
4n => 4 x 10 => 40

What would be the 15th number?

4n => 4 x 15 => 60

What would be the 50th number?

4n => 4 x 50 => 200



Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Number Sequences

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algebra
multiple

Look at this sequence:

7, 12, 17, 22, 27, 32

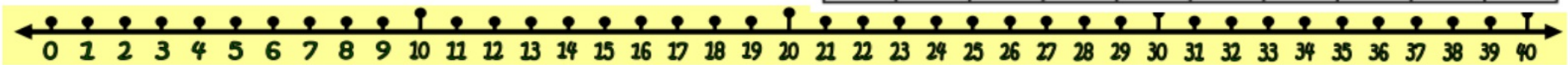
It is the 5x table plus 2

The rule could be written as

5n + 2

So, the 4th number is
(5 x 4) +2 = 22

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



Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Number Sequences

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Subtract
Times
More than
less than
algebra
multiple

What is the rule for these sequences?

11, 21, 31, 41, 51

What would be the 10th number?

What would be the 15th number?

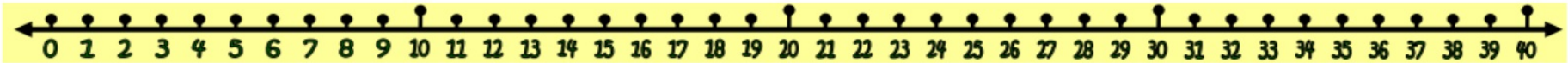
What would be the 20th number?

4, 11, 18, 25, 32, 39

What would be the 10th number?

What would be the 15th number?

What would be the 20th number?



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Number Sequences

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Times
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multiple

What is the rule for these sequences?

11, 21, 31, 41, 51

10n + 1

What would be the 10th number?

10n + 1 => (10x10) + 1 = 101

What would be the 15th number?

10n + 1 => (10x15) + 1 = 151

What would be the 20th number?

10n + 1 => (10x20) + 1 = 201

4, 11, 18, 25, 32, 39

7n - 3

What would be the 10th number?

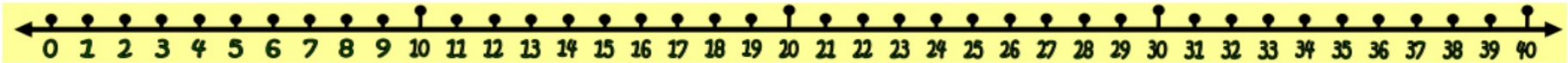
7n - 3 => (7x10) - 3 = 67

What would be the 15th number?

7n - 3 => (7x15) - 3 = 102

What would be the 20th number?

7n - 3 => (7x20) - 3 = 137



Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Book Work

Number Sequences

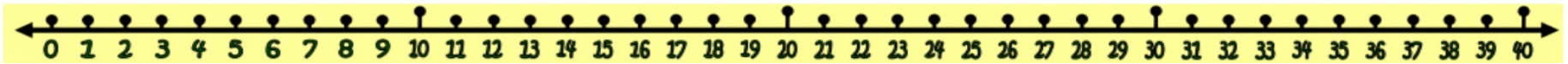
Write down the rule and complete the sequences:

1.	Rule: 8n	8, 16, 24, 32, ___, ___
2.	Rule: _____	11, 22, 33, 44, ___, ___
3.	Rule: 7n+1	8, 15, 22, 29, ___, ___
4.	Rule: __+1	6, 11, 16, 21, ___, ___
5.	Rule: _____	7, 11, 15, 19, ___, ___
6.	Rule: _____	13, 25, 37, 49, ___, ___
7.	Rule: 6n-1	5, 11, 17, 23, ___, ___
8.	Rule: __-2	8, 18, 28, 38, ___, ___
9.	Rule: _____	4, 9, 14, 19, ___, ___
10.	Rule: _____	4, 11, 18, 25 ____, ____

1.	Rule: 6n+1	7, ___, 19, 25, ___
2.	Rule: ____	10, 17, 24, ___, 38, ___
3.	Rule: ____	13, ___, 37, 49, 61, ___
4.	Rule: ____	5, 7, 9, ___, ___, 15
5.	Rule: ____	12, ___, ___, 27, 32
6.	Rule: __-2	8, ___, 28, 38, ___
7.	Rule: ____	10, 22, 34, ___, ___
8.	Rule: ____	3, ___, 19, 27, 35, ___
9.	Rule: ____	14, 23, ___, 41, ___
10.	Rule: ____	15, 23, 31, ___, 47, ___

1.	Rule: 4n+3	What is the 20th number?
2.	Rule: 9n+7	What is the 15th number?
3.	Rule: 12n-5	What is the 10th number?
4.	Rule: 8n-4	What is the 20th number?
5.	Rule: 6n+3.5	What is the 10th number?
6.	Rule: 4n+3	Is 46 in this sequence?
7.	Rule: 8n-5	Is 41 in this sequence?
8.	Rule: 11n+7	Is 90 in this sequence?
9.	Rule: 12n-6	Is 54 in this sequence?
10.	Rule: 13n-2.5	Is 257.5 in this sequence?

Extension: Explain how you know in questions 6 - 10



Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Book Work

Number Sequences

Write down the rule and complete the sequences:

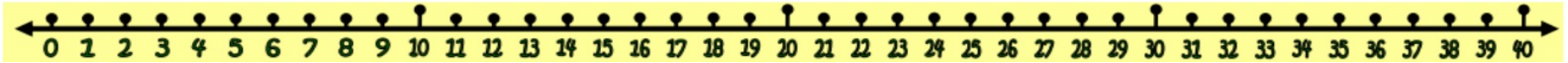
1. Rule: 8n 8, 16, 24, 32, 40, 44
2. Rule: 11n 11, 22, 33, 44, 55, 66
3. Rule: 7n+1 8, 15, 22, 29, 36, 43
4. Rule: 5n+1 6, 11, 16, 21, 26, 31
5. Rule: 4n+3 7, 11, 15, 19, 23, 28
6. Rule: 12n+1 13, 25, 37, 49, 61, 73
7. Rule: 6n-1 5, 11, 17, 23, 29, 35
8. Rule: 10n-2 8, 18, 28, 38, 48, 58
9. Rule: 5n-1 4, 9, 14, 19, 24, 29
10. Rule: 7n-3 4, 11, 18, 25 32, 39

1. Rule: 6n+1 7, 13, 19, 25, 31
2. Rule: 7n+3 10, 17, 24, 31, 38, 45
3. Rule: 12n+1 13, 25, 37, 49, 61, 73
4. Rule: 2n+3 5, 7, 9, 11, 13, 15
5. Rule: 5n+7 12, 17, 22, 27, 32
6. Rule: 10n-2 8, 18, 28, 38, 48
7. Rule: 12n-2 10, 22, 34, 46, 58
8. Rule: 8n-5 3, 11, 19, 27, 35, 43
9. Rule: 11n+3 14, 23, 32, 41, 52
10. Rule: 8n+7 15, 23, 31, 38, 47, 55

1. Rule: 4n+3 What is the 20th number? 83
2. Rule: 9n+7 What is the 15th number? 142
3. Rule: 12n-5 What is the 10th number? 115
4. Rule: 8n-4 What is the 20th number? 156
5. Rule: 6n+3.5 What is the 10th number? 63.5

6. Rule: 4n+3 Is 46 in this sequence? Y
7. Rule: 8n-5 Is 41 in this sequence? N
8. Rule: 11n+7 Is 90 in this sequence? N
9. Rule: 12n-6 Is 54 in this sequence? Y
10. Rule: 13n-2.5 Is 257.5 in this sequence?

Extension: Explain how you know in questions 6 - 10 Y



Explain reasoning and conclusions, using words, symbols or diagrams as appropriate

Book Work

Number Sequences

Plenary:

The rule for this sequence of numbers is 'add 3 each time'.

1 4 7 10 13 16 ...

The sequence continues in the same way.

I think that no matter how far you go there will never be a multiple of 3 in the sequence.

Am I correct? Explain how you know.