# Unit 3 – Numbers and sequences

Name: _____  Grade 4/Year 5 _____

**Q1)** This pattern makes a sequence.
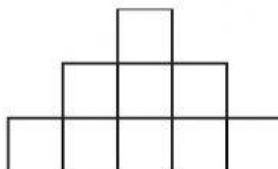
a) Complete the following table.

| Row number | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Number of squares in a row | 1 | 3 | 5 | | | | |

b) What is the term-to-term rule for the sequence.

_____

**Q2)** A sequence starts at 16.
4 is subtracted each time.
Write the next four terms in this sequence.

_____

**Q3)** The numbers in this sequence increase by the same amount each time.
What is the first term in the sequence shown?

_____, 24, 30, 36, 42

**Q4)** A sequence starts at 300 and 60 is added each time.
Write the next two numbers in the sequence.

300,  360,  420, 480, _____, _____ .

**Q5)** Given the first term and the term –to- term rule, write down the first five terms for the following sequence.
First term: 4, term to term rule : add 7

4, _____, _____, _____, _____, _____.

Q6) Here are some patterns made from matchsticks.
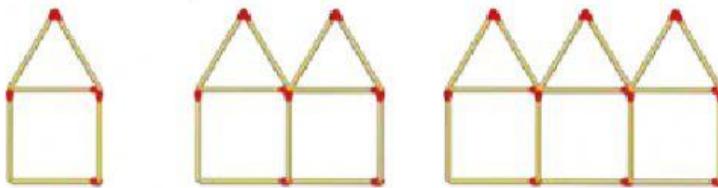
a) Complete the following table and calculate the numbers of matchsticks in the fourth pattern.

| Pattern number | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Number of matchsticks | 6 | 11 | 16 | |

b) What is the term-to-term rule?

_____

c) How many matchsticks are in the 10<sup>th</sup> pattern?

_____   _____   _____

Q7) Look at these patterns below.
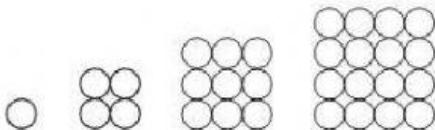
a) Write the next two terms in the sequence.
   1, 4, 9, 16, _____, _____.

b) What is the mathematical name for these numbers.
   _____

Q8) Look at these patterns below.

a) Write the next two terms in the sequence.
   1, 3, 6, 10, _____, _____.

b) What is the mathematical name for these numbers.
   _____

Q9) Find the value of:

a) $7^2$ = _____          b) $9^2$ = _____

Q10) What is the eighth square number? _____

Q11) Write each number in the correct place on the Venn diagram.

2, 3, 4, 5, 6, 7, 8

Prime
numbers

Composite
numbers
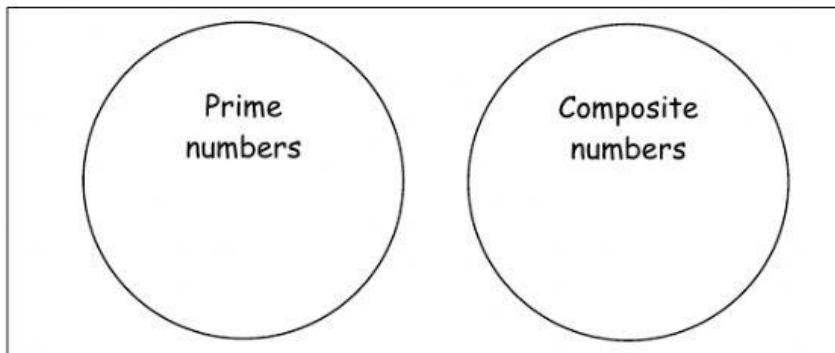
Q12) Complete these sentences.

a) A number with only two factors is called a _____ number.

b) A number with more than two factors is called a _____ number.