

**Chapter 2 Test – Number Sequences (supplemental)**

- ① Make a table of squares of the numbers from 91 through 95.
- ② Look at just the first two digits of these numbers. What do you notice?
- ③ What do you notice about the last two digits of these numbers?

Consider the following pattern:

$$1^2 - 0^2 = 1 + 0$$

$$2^2 - 1^2 = 2 + 1$$

$$3^2 - 2^2 = 3 + 2$$

- ④ Write the next line of this pattern.
- ⑤ Show whether or not it is true.
- ⑥ Write the seventh line of the pattern.
- ⑦ Show whether or not it is true.
- ⑧ Write the 100th line of the pattern.

Consider the following pattern:

$$1 \qquad \qquad \qquad = 1$$

$$2 + 6 \qquad \qquad \qquad = \blacksquare\blacksquare\blacksquare\blacksquare$$

$$3 + 9 + 15 \qquad \qquad \qquad = \blacksquare\blacksquare\blacksquare\blacksquare\blacksquare\blacksquare$$

$$4 + 12 + 20 + 28 = \blacksquare\blacksquare\blacksquare\blacksquare\blacksquare\blacksquare\blacksquare\blacksquare$$

- ⑨ Copy it, filling in the missing numbers.
- ⑩ What kind of sequence do the numbers on the left side of each equation form?
- ⑪ What sequence do the numbers on the right sides of the equations form?
- ⑫ Write the next line of the pattern.