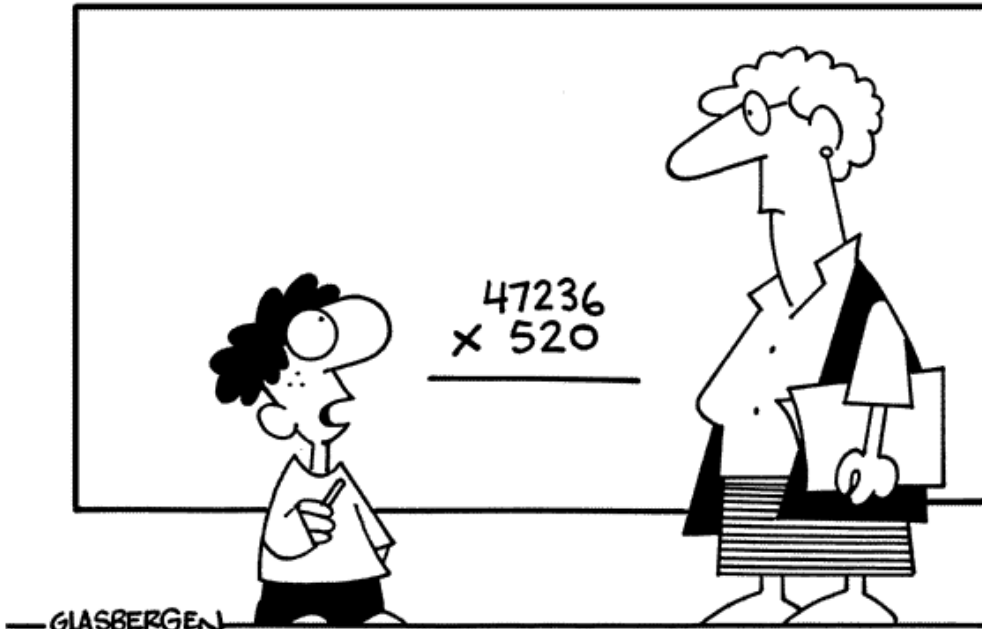


1.1 Arithmetic Sequences

Tuesday, September 1, 2015 10:40 AM

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“Aren’t there enough problems in the world already?”

Sequences

• a list of numbers, often with a pattern

For example:

① 3, 7, 11, 15, 19

 └─┬─┘ └─┬─┘
 +4 +4

Arithmetic
sequence

② 20, 18, 16, ...

 └─┬─┘
 -2

$$t_2 = 7 + 1 \cdot 7 = 0$$

$$t_3 = 4 + 2 \cdot 4 = 12$$

$$t_4 = 4 + 3 \cdot 4 = 16$$

⋮

$$t_n = t_1 + (n-1)d$$

$$t_{10} = 4 + 9 \cdot 4 \\ = 40$$

Ex. 2) If $t_1 = -10$

$$d = 7$$

find t_{22}

$$t_n = t_1 + (n-1)d$$

$$t_{22} = -10 + (22-1) \cdot 7$$

$$= -10 + 21 \cdot 7$$

$$= 137$$

Ex. 3) finding t_1

first find d

say $t_3 = 4$ $t_8 = 34$

$$8 - 3 = 5 = 5d$$

$$1 - t_1 = 1 + 1$$

④

34

sum

$$t_9 = t_3 + 5d$$

$$34 = 4 + 5d$$

$$30 = 5d$$

$$d = 6$$

$$t_3 = 4$$

$$d = 6$$

$$t_n = t_1 + (n-1)d$$

$$t_3 = 4 = t_1 + 2 \cdot 6$$

$$4 = t_1 + 12$$

$$t_1 = -8$$

p. 7-13

#1, 4-6, 7a, 8, 10, 13, 15, 16

