

Grade 8 Mathematics Worksheet

Number patterns

Questions:

What will be the next two terms in the sequence 1; 3; 7; 15; 31;....

- A) 21; 33
- B) 63; 127
- C) 53; 107
- D) 42; 59

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Solution

$$1; 3; 7; 15; 31; \dots = 1; T_1 + 2; T_2 + 4; T_3 + 8; T_4 + 16; T_5 + 32; T_6 + 64; T_7 + 128$$

$$= 1; 3; 7; 15; 31; 63; 127; 255; \dots$$

So the answer is (B).

Expressing and exploring the relationship recursively is a skill that most learners already possess.