

49 For naturals  $n$  and  $m$ , we can express the statement “ $n$  is a factor of  $m$ ” formally as follows:

$$m: n \times nat$$

(a) What are the factors of 0?

§ For any natural  $n$  we have  $0: n \times nat$ , so all naturals are factors of 0.

(b) What is 0 a factor of?

§  $m: 0 \times nat$  requires  $m$  to be 0, so 0 is a factor of only 0.

(c) What are the factors of 1?

§  $1: n \times nat$  requires  $n$  to be 1, so only 1 is a factor of 1.

(d) What is 1 a factor of?

§ For any natural  $m$  we have  $m: 1 \times nat$ , so 1 is a factor of all naturals.

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