

MATC9 Ch5.4 Key Concepts 1 Rational Numbers Worked Example

Example: Classify each of the following numbers are rational or not rational, and explain why:

a) $1\frac{3}{4}$ b) 0.25 c) $\frac{2}{0}$ d) $\frac{0}{1}$

Solution: a) $1\frac{3}{4}$ can be written in the form $\frac{7}{4}$, which is a rational number.

b) 0.25 can be written in the form $\frac{1}{4}$, which is a rational number.

c) The denominator of a rational number cannot be zero. Therefore, $\frac{2}{0}$ is not a rational number.

d) The numerator of a rational number may be zero. Therefore, $\frac{0}{1}$ is a rational number.

Practice:

1. Classify 3.0625 as rational or not rational, and explain why.

2. Classify $\frac{100}{0}$ as rational or not rational, and explain why.

Answers: 1. rational. 2. not rational.