Rational operations, integer powers and scientific notation

Year 8, upper volume • text pp. 83–96 • foundation lessons 42–48 • 1/2

Name: _____ Class: _____ Date: _____

Worked example 1

Simplify and retain every restriction from the original expression.

$$\frac{1}{x-1}+\frac{2}{x+1}$$

Guided attempt 2

Simplify and retain every restriction from the original expression.

$$\frac{x^2-4}{x+1}\div\frac{x-2}{x+1}$$

1. Original denominators exclude ___; the divisor also excludes ___.
2. Replace ÷ by × the reciprocal, factor, then cancel ___.

Prerequisite 3

Evaluate 2^{-3}. Explain the negative exponent.

$$2^{-3}$$

Prerequisite 4

Simplify and retain every restriction from the original expression.

$$\frac{x+1}{x-2}+\frac{2}{x-2}$$

Rational operations, integer powers and scientific notation

Year 8, upper volume • text pp. 83–96 • foundation lessons 42–48 • 2/2

Name: _____ Class: _____ Date: _____

Independent practice 5

Simplify and retain every restriction from the original expression.

$$\frac{x^2-9}{x-1}\times\frac{x-1}{x+3}$$

Independent practice 6

Simplify and retain every restriction from the original expression.

$$\frac{2}{x}-\frac{1}{x+1}$$

Independent practice 7

Evaluate $(-2)^{-2}$. Show the reciprocal before calculating.

$$(-2)^{-2}$$

Independent practice 8

Write 0.00056 in scientific notation with $1\le|a|<10$.

$$0.00056$$

Exit question 9

Simplify and retain every restriction from the original expression.

$$\frac{3}{x}\div\frac{6}{x}$$

Exit question 10

Write 0.000072 in scientific notation with $1\le|a|<10$.

$$0.000072$$