Rational Expressions, Rational Equations & Solving 2nd Degree Equations REVIEW

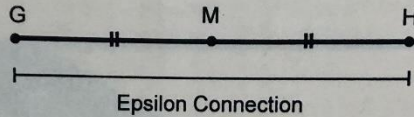

1)

The Epsilon Connection

The Epsilon Connection consists of one long connection from point G to point H. A monitoring station, represented by point M, is located on segment GH such that segment GM is equivalent to segment MH.

The measure of segment GM is $\dfrac{3n + 20}{n - 4}$ kilometres.

The measure of segment MH is $\dfrac{3n^2 + 16n + 5}{n^2 - 25}$ kilometres.

Epsilon Connection

What is the numerical segment GH in km?

2)

In the following algebraic expression, the numerators and denominators are not equal to zero.

$$\frac{4x^2 - 49}{2x^2 - 5x - 7} \div \frac{1}{x + 1}$$

This expression is equivalent to a binomial.

What is this binomial?

3)

In the following algebraic expression, the numerators and denominators are not equal to zero.

$$\frac{(2x - 5)(3x - 5)}{9x^2 - 25} + \frac{6x^2 + 5x}{3x + 5}$$

This expression is equivalent to a binomial.

What is this binomial?

4)

In the following algebraic expression, the numerators and denominators are not equal to zero.

$$\frac{4x^2 - 25}{x + 4} \times \frac{x^2 + 5x + 4}{2x^2 - 3x - 5}$$

This expression is equivalent to a binomial.

What is this binomial?

5)

In the algebraic expression below, the numerators and denominators are not equal to zero.

$$\frac{x + 4}{x^2 - 49} + \frac{3}{x - 7}$$

6)

In the algebraic expression below, the denominator is not equal to zero.

$$x + 2 \ - \ \frac{x^2 + 4x + 3}{x^2 - 9}$$

7)

The rectangle and the square below are equivalent. Determine their dimensions.

2x + 5

x

x + 10