

Name:

Date:

Easy

Problem 1.

Compute: $(8 \times 4 + 2) - (8 + 4 \times 2)$.

Solution.

Problem 2.

Order the fractions $\frac{15}{11}$, $\frac{19}{15}$, and $\frac{17}{13}$ from least to greatest.

Solution.

Moderate

Problem 3.

Define $a * b$ as $3a - b$. Find the value of x if

$$2 * (5 * x) = 1.$$

Solution.

Problem 4.

Three positive integers x , y , and z satisfies the following equation.

$$x + \frac{y}{z} = \frac{11}{6}$$

Find the minimum value of $x + y + z$.

Solution.

Challenging

Problem 5.

Let N be a three-digit positive integer that is divisible by 7. The number formed by reversing the digits of N is divisible by 5. How many N 's are there?

Solution.

Problem 6.

Let there be a right triangle ABC with side lengths of $AB = 20$ and $BC = 21$. Including \overline{AB} and \overline{BC} , how many line segments with integer length can be drawn from vertex B to a point on hypotenuse \overline{AC} ?

Solution.