

Math 1303 - Math in the Liberal Arts

Quiz #9 - 2005.10.17

Solutions

1. Solve the following equation for the unknown variable.

$$2x - 7 + 3\left(x - \frac{4}{5}\right) = 2(x + 3(x + 4) - 7)$$

Getting rid of parenthesis first, one has

$$2x - 7 + 3x - \frac{12}{5} = 2x + 6x + 24 - 14$$

Collecting like terms on both sides gives

$$5x - \frac{47}{5} = 8x + 10$$

putting all terms which have x in them on one side, and moving all else which does not have the variable x in it yields

$$3x = -\frac{97}{5}$$

Finally we have

$$x = -\frac{97}{15}$$

2. Determine if the following equation is true:

$$\frac{a}{b} + \frac{a}{c} = \frac{a}{b+c}$$

The equation is not true.

$$\frac{a}{b} + \frac{a}{c} = \frac{ac + ab}{bc} \neq \frac{a}{b+c}$$