

Mini-Quiz 9 Solutions

Math 111

Name:

[10] Solve for y . Combine like terms where given but you need not perform fraction addition.

Let x and y be real numbers. Assume $x, y, z \neq 0$

$$\frac{1}{x} = \frac{1}{y}$$

$$x = \frac{-3+2y}{y}$$

$$x = \frac{-y}{y+x}$$

$$x = \frac{2xy}{y-5}$$

$$y = x$$

$$y = \frac{-3}{x-2}$$

$$y = \frac{-x^2}{x+1}$$

$$y = -5$$

Solve for $g(x)$. Combine like terms where given but you need not perform fraction addition.

Let x, z , and $g(x)$ be real numbers. Assume $x, y, z \neq 0$

$$x = \frac{3-g(x)}{g(x)}$$

$$x = \frac{3g(x)}{g(x)-2}$$

$$-x = \frac{-g(x)}{4-g(x)}$$

$$\frac{1}{g(x)} = \frac{2}{x} + \frac{x}{z}$$

$$g(x) = \frac{3}{x+1}$$

$$g(x) = \frac{2x}{x-3}$$

$$g(x) = \frac{4x}{x+1}$$

$$g(x) = \frac{xz}{2z+x^2}$$

$$2g(x) = \frac{8g(x)+42}{g(x)}$$

$$g(x) = \frac{4g(x)-x}{g(x)}$$

$$2g(x)^2 - 8g(x) - 42 = 0$$

$$g(x)^2 - 4g(x) + x = 0$$

$$g(x)^2 - 4g(x) - 21 = 0$$

$$g(x) = \frac{4 \pm \sqrt{16-4x}}{2}$$

$$(g(x) - 7)(g(x) + 3) = 0$$

$$g(x) = 7, -3$$