

Question #1:

$$\frac{1}{x} + 2 = \frac{3}{x}$$

Answer: $x = -1$

Question #2:

$$\frac{x+6}{x+3} = \frac{3}{x+3} + 2$$

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Answer: $x = 1$

Question #3:

$$\frac{8}{x^2-9} + \frac{4}{x+3} = \frac{2}{x-3}$$

Answer: Cannot exist

Question #4:

$$\frac{6}{x} - \frac{x}{3} = 1$$

Answer: $m_1 = \frac{d^2 F}{G m_2}$

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Question # 5:

$$\frac{x+6}{3x-12} = \frac{5}{x-4} + \frac{2}{3}$$

Answer: $x=5$

Question # 6:

The function below represents the cost, $f(x)$, in millions of dollars to remove $x\%$ of river pollutants. What % of river pollutants can be removed if the government spends \$75 million.

$$f(x) = \frac{250x}{100-x}$$

Answer: all real numbers

Question # 7:

If $g(x) = \frac{3x-2}{x+1} + \frac{x+2}{x-1}$ find

a if $g(a) = 4$.

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Answer: $x=60$

Question # 8

$$\frac{4x}{x+3} - \frac{12}{x-3} = \frac{4x^2+36}{x^2-9}$$

Answer: $a=4$

Question #9

$$\frac{7}{x} - \frac{2}{x} = \frac{5}{x}$$

Answer: $x = -6$ $x = 3$

Question #10

The following equation describes the gravitational force between two objects. Solve for x .

$$F = \frac{Gm_1m_2}{d^2}$$

Answer: The ^{$x =$} empty set