1.2 Linear Equations & Rational Equations

GOALS:

- 1. Recognize equations as linear
- 2. Solve linear equations using the Addition Property of Equality and the Multiplication Property of Equality
- 3. Solve rational equations using the *Multiplication Property of Equality*
- 4. Classify equations as Conditional, Inconsistent, or Identities

Study 1.2 CVC 1-11, 2 # 1- 15; 17, 21, 25, 29; 31, 35, ..., 59; 61 - 67, 95

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1.2 Linear Equations & Rational Equations

Linear Equation in 1 variable: can be written in the form

 $ax + b = 0, a \neq 0$

where x is variable and a, b are constant

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1.2 Linear Equations & Rational Equations
$$ax + b = 0, \ a \neq 0$$
Which is a linear equation?
$$2x + 9 = 0 \qquad 2\sqrt{x} + 9 = 0$$

 $2x^2 - 9 = 0$ 2x + 9 = 29

$$2x + 3(x - 2) = 9$$

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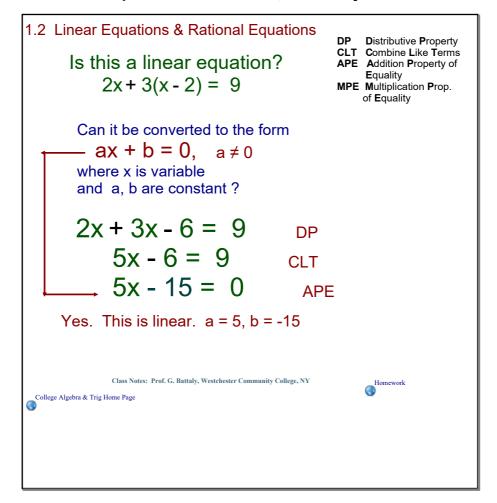
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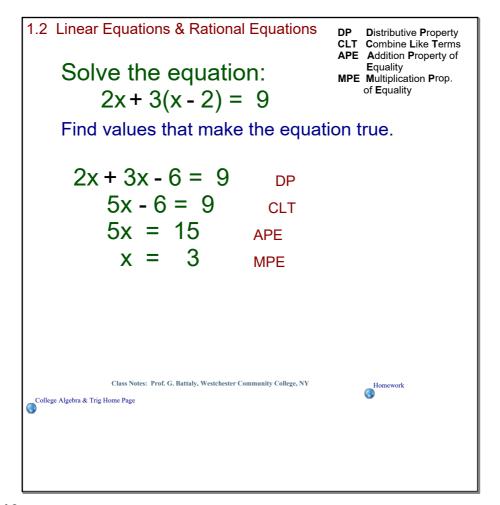
1.2 Linear Equations & Rational Equations
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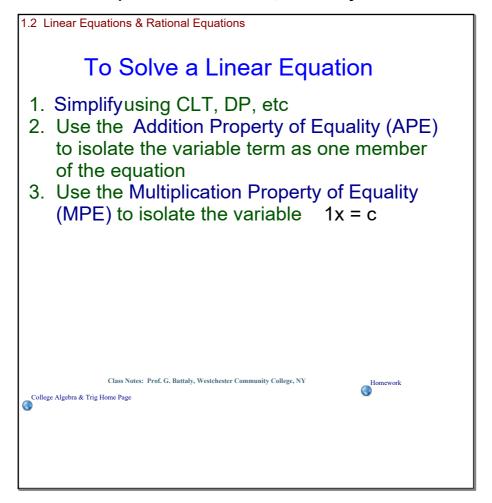
$$2x^2 - 9 = 0 \qquad 2x + 9 = 29$$

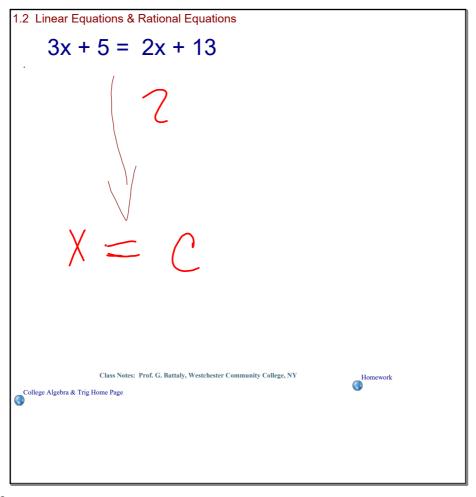
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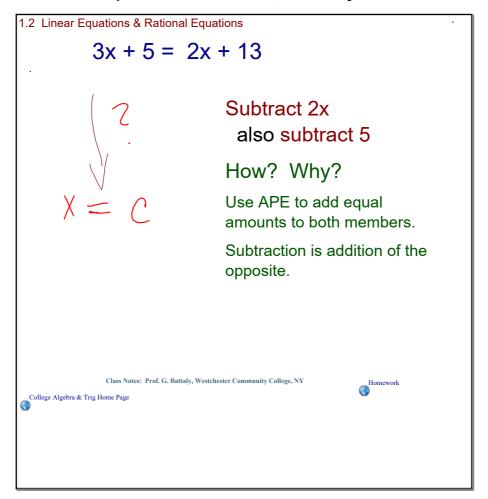
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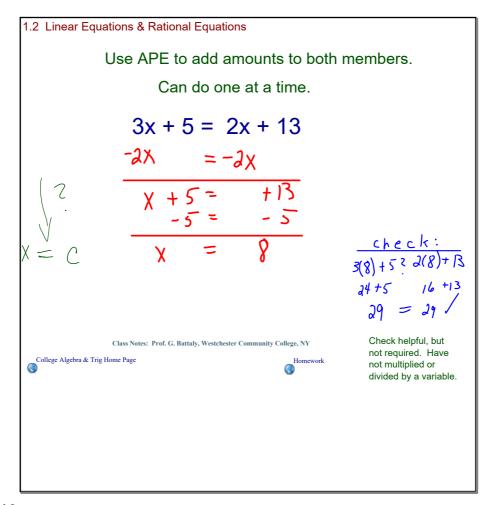


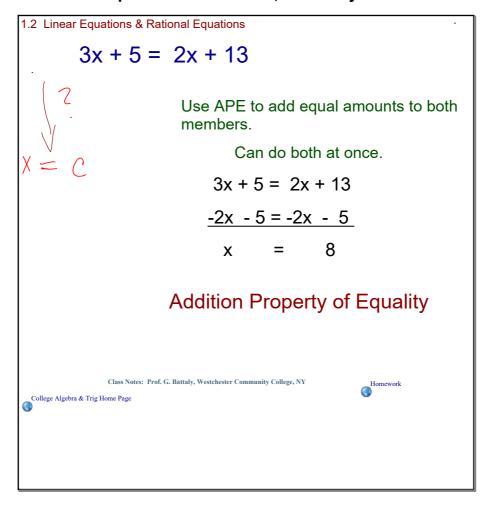


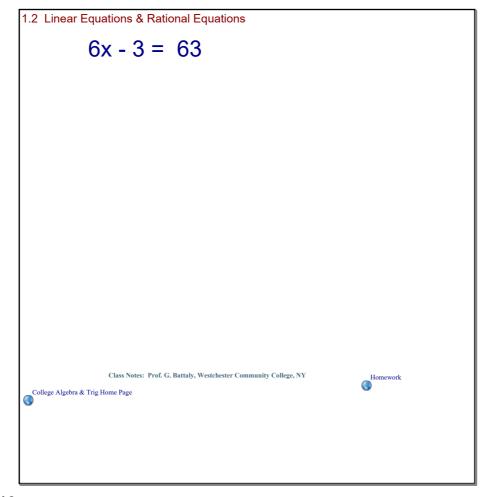


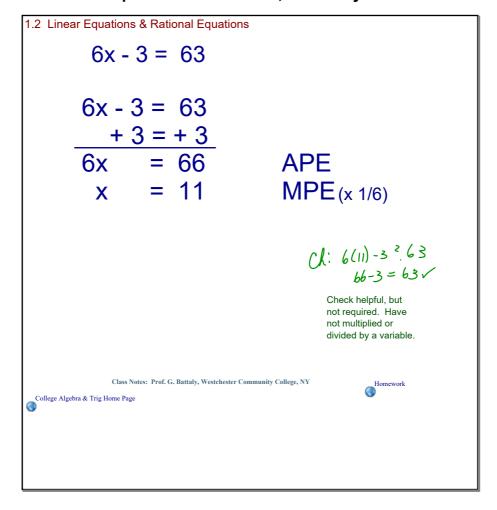


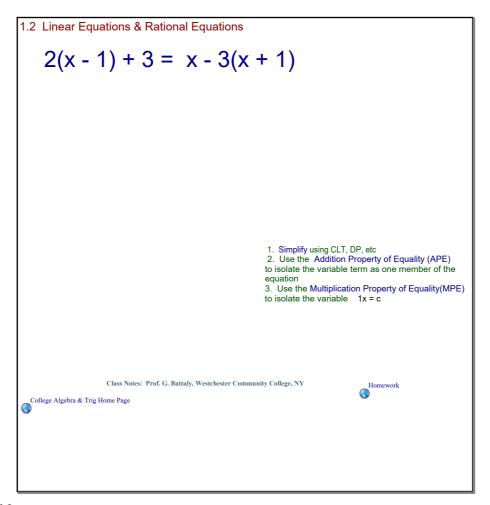












1.2 Linear Equations & Rational Equations
$$2(x-1)+3=x-3(x+1)$$

$$2(x-1)+3=x-3(x+1)$$

$$2x-2+3=x-3x-3$$

$$2x+1=-2x-3$$

$$+2x-1=+2x-1$$

$$4x=-4$$

$$x=-1$$

$$APE$$

$$x=-1$$

$$x=$$

1.2 Linear Equations & Rational Equations

$$\frac{X}{5} - \frac{1}{2} = \frac{X}{6}$$
1st Find LCD = 5(6)=30

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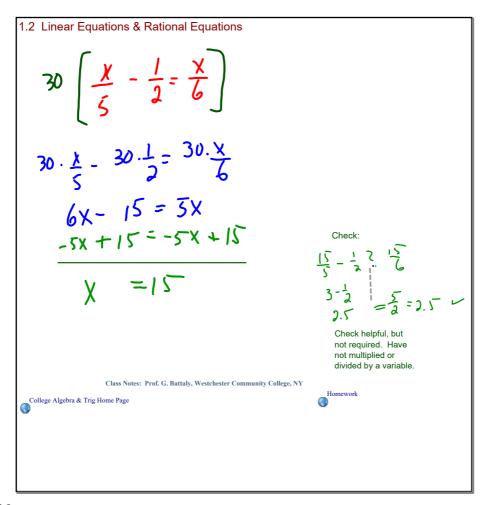
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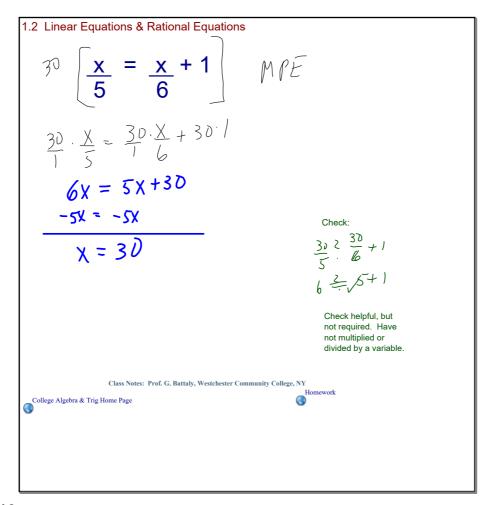
1.2 Linear Equations & Rational Equations

$$\frac{X}{5} - \frac{1}{2} = \frac{X}{6}$$
1st Find LCD = 5(6)=30

$$\sqrt[3]{5} - \frac{1}{2} = \frac{X}{6}$$
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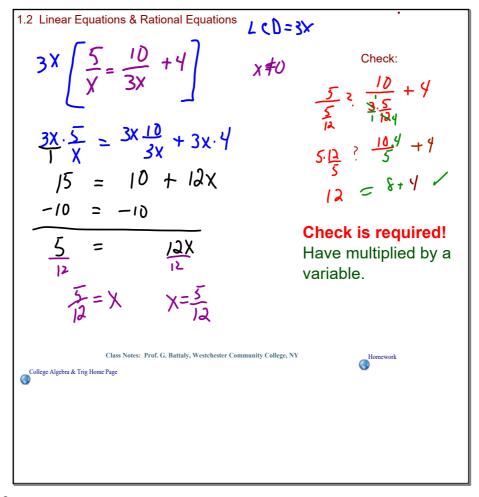
1.2 Linear Equations & Rational Equations

$$\frac{5}{X} = \frac{10}{3X} + 4$$

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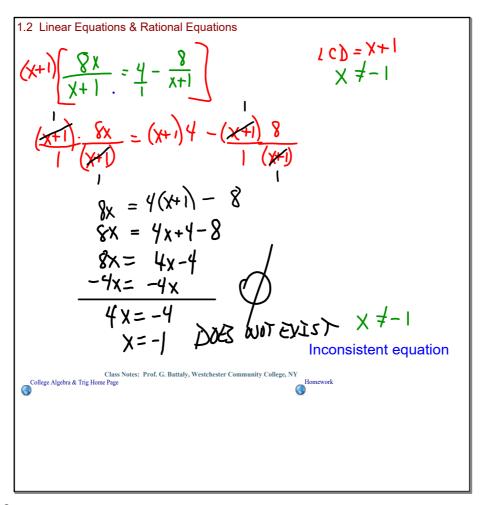


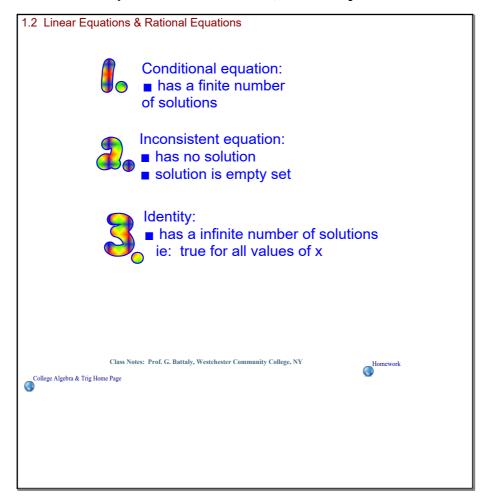
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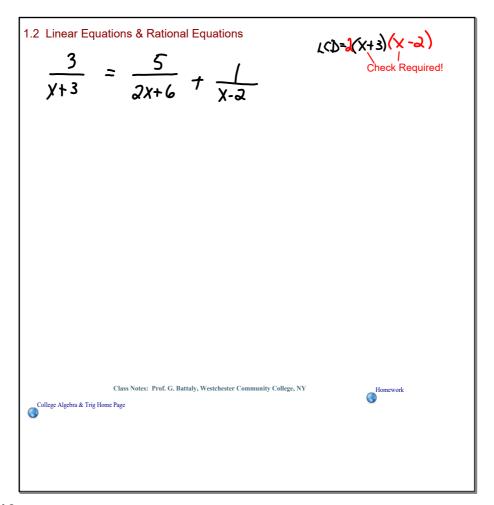
$$\frac{8x}{x+1} = 4 - \frac{8}{x+1}$$

$$\frac{1 \cdot D = x+1}{x \neq -1}$$
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1.2 Linear Equations & Rational Equations
$$\begin{pmatrix}
3 \\
\hline
y+3
\end{pmatrix} = \frac{5}{2x+6} + \frac{1}{x-2}$$

$$2(x+3)(x-2) \cdot \frac{3}{2(x+3)} = 2(x+3)(x-2) \cdot \frac{5}{2(x+3)} + 2(x+3)(x-2) \cdot \frac{1}{(x-2)}$$

$$2(x-2)(3) = 5(x-2) + 2(x+3)$$

$$6x-12 = \frac{5x-10}{7x-4} + \frac{2x+6}{6x-12} = \frac{5x-10}{7x-4} + \frac{2x+6}{6x-12} = \frac{5x-10}{7x-4}$$

$$-\frac{7x+12}{-7x+12} = -7x+12$$
Check is required!
Have multiplied by a variable.

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