Three consecutive multiples of three have a sum of 207. Write and solve an equation to find these three numbers.

$x + (x+3) + (x+6) = 207$

$3x + 9 = 207$

$-9 \quad -9$

$3x = 198$

$x = 66$

66, 69, 72

Solve.

$\frac{4}{3}m - \frac{11}{6} = \frac{2}{9}$

$24m - 33 = 4$

$+33 \quad +33$

$\frac{24m}{24} = \frac{37}{24}$

$m = \frac{37}{24}$

Multiply both sides of the equation by the LCM of 3, 6, & 9.

Solve.

$\frac{6}{6}\cdot\frac{4}{3}m - \frac{11}{6}\cdot\frac{3}{3} = \frac{2}{9}\cdot\frac{2}{2}$

$18\left(\frac{24}{18}m - \frac{33}{18} = \frac{4}{18}\right)$

$24m - 33 = 4$

$+33 \quad +33$

$\frac{24m}{24} = \frac{37}{24}$

$m = \frac{37}{24}$

Another Method:

Get all terms on both sides to have the same denominator (LCD).

Solve.

$\frac{5}{12} - \frac{7}{8}A = \frac{1}{6}$ (24)

$10 - 21A = 4$

$-10 \quad -10$

$\frac{-21A}{-21} = \frac{-6}{-21}$

$A = \frac{2}{7}$

—— + ——Q = ——

Hwk #10:

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Problems: 21-27

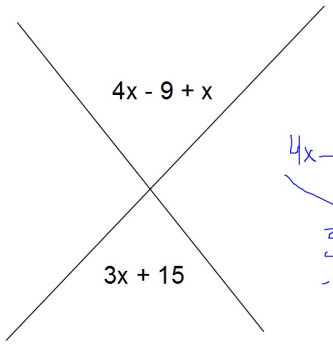
Find exact solutions
(no rounded answers!!)

Due Tomorrow

Solve.

$$11 \cdot \frac{5}{4} = \frac{B}{11} \cdot 11$$

$$\frac{55}{4} = B$$



Write and solve an equation to find the value of x.

Vertical Angles are equal

$4x - 9 + x = 3x + 15$

$3x - 9 = 3x + 15$

$-3x \quad -3x$

$x = 12$

$2x - 9 = 15$

$+9 \quad +9$

$\frac{2x}{2} = \frac{24}{2}$

Equations with variables on Both Sides of the equal sign:

- Simplify each side first. Use Distributive Property if necessary.
- Move all the variables to one side of the equation.
- Solve.

Solve.

$$4x - 3 = 7x + 14 - 5x + 1$$

$4x - 3 = 2x + 15$

$-2y \quad -2x$

$2x - 3 = 15$

$+3 \quad +3$

$\frac{2x}{2} = \frac{18}{2}$

$x = 9$

Do a Boolean Check on the following equation. Use your seat number as the potential solution.

$$9x - 3(2x + 6) + 19 = 2x + 5 + x - 4$$

Is your seat number a solution?

Everybody's seat number should be a solution.

$$9x - 3(2x + 6) + 19 = 2x + 5 + x - 4$$

Simplify both sides

$$9x - 3(2x + 6) + 19 = 2x + 5 + x - 4$$

This equation is called an IDENTITY:

both sides are identical after you simplify.

$$3x + 1 = 3x + 1$$
$$1 = 1$$

No matter what you substitute for x the two sides will be identical.

We say that there are an Infinite number of solutions or that the solution is All Real Numbers.

Do a Boolean Check with this equation using your seat number.

$$10 + 3(R - 5) + 2R = 4R - 1 + R - 3$$

Is your seat number a solution?

Nobody's seat number is a solution!

$$10 + 3(R - 5) + 2R = 4R - 1 + R - 3$$

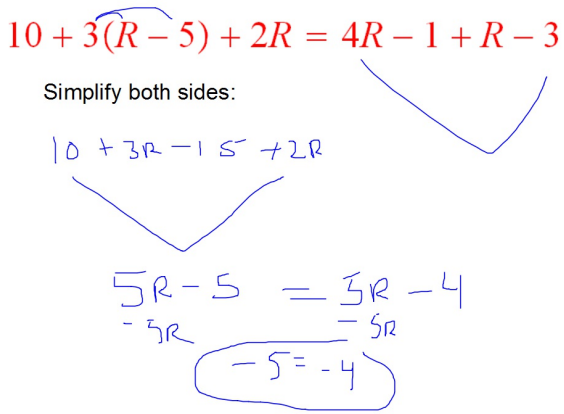
Simplify both sides:

$10 + 3R - 15 + 2R$

$5R - 5 = 5R - 4$

$-5R \quad -5R$

$-5 = -4$



$$10 + 3(R - 5) + 2R = 4R - 1 + R - 3$$

5R - 5 = 5R - 4

-5 = -4

This is NOT TRUE!

- This equation has NO SOLUTION.
- No matter what you substitute for R the two sides will never be equal.