Journal Entry:

A student solved an equation and found that the variable was eliminated in the process. How would the student know whether the equation is an identity or a no solution? Explain and give examples of each.

Section 2 - 5
Literal Equations and Formulas

Students will be able to rewrite and use literal equations and formulas.

You are ordering pizzas and sandwiches. Pizza is $10 and sandwiches are $5. You have a budget of $80. How many sandwiches can you buy if you get 4 pizzas? 5 pizzas?

$10p + 5s = 80$

$40 + 5s = 80$

$\frac{5s}{5} = \frac{40}{5}$

We are going to take a look at how to solve literal equations, which have more than one variable.

What was the equation for the previous problem? Solve for s.

$10p + 5s = 80$

$-10p \quad -10p$

$\frac{5s}{5} = \frac{80 - 10p}{5}$

$s = \frac{80 - 10p}{5}$

$s = 16 - 2p$

Solve for m:

4 = 2m - 5n

+5n +5n

$\frac{4+5n}{2} = \frac{2m}{2}$

$m = \frac{4+5n}{2}$

What are the values of m when n = -2, 0, 2

$m = \frac{4+5(-2)}{2} = \frac{4-10}{2} = \frac{-6}{2}$

$m = -3$

$m = \frac{4+5(0)}{2} = 2$

Formula Sheet:

Perimeter of a rectangle: $P = 2L + 2w$

Circumference of a circle: $C = \pi d$ or $C = 2\pi r$

Area of a rectangle: $A = L \cdot w$

Area of a triangle: $A = \frac{1}{2} b \cdot h$

Area of a circle: $A = \pi r^2$

Distance: $d = r \cdot t$

Temperature: $C = \frac{5}{9}(F - 32)$

What is the height of a triangle that has an area of 24 in^2. and a base with a length of 8 in?

$A = \frac{1}{2} bh$

$24 = \frac{1}{2}(8)h$

$h = 6''$

$\frac{24}{4} = \frac{4h}{4}$

Solve:

a - 2b = -10 for b

-a -a

$\frac{-2b}{-2} = \frac{-10-a}{-2}$

$\frac{9}{5} \cdot C = \frac{5}{9} \cdot \frac{9}{5}(F - 32)$ for F

$\frac{9}{5}C = F - 32$

+32 +32

$F = \frac{9}{5}C + 32$

Solve for x:

ax - bx = c

$x(a-b) = c$

$\frac{x(a-b)}{a-b} = \frac{c}{a-b}$

$x = \frac{c}{a-b}$

Solve for the indicated variable.

(pg 112) #26. $4(x - b) = x$

$4x - 4b = x + 4b$

$+4b \quad +4b$

$4x = x + 4b$

$-x \quad -x$

$\frac{3x}{3} = \frac{4b}{3}$

$x = \frac{4b}{3}$

#40. $A = \left(\frac{f+g}{2}\right)h$ for g

$2 \cdot \frac{A}{h} = \frac{f+g}{2} \cdot 2$

$\frac{2A}{h} = f + g$

$-f \quad -f$

$\frac{2A}{h} - f = g$

Hwk:

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#16, 20 - 42 evens, 45, 48