Solving Equations

$2x$ TERM

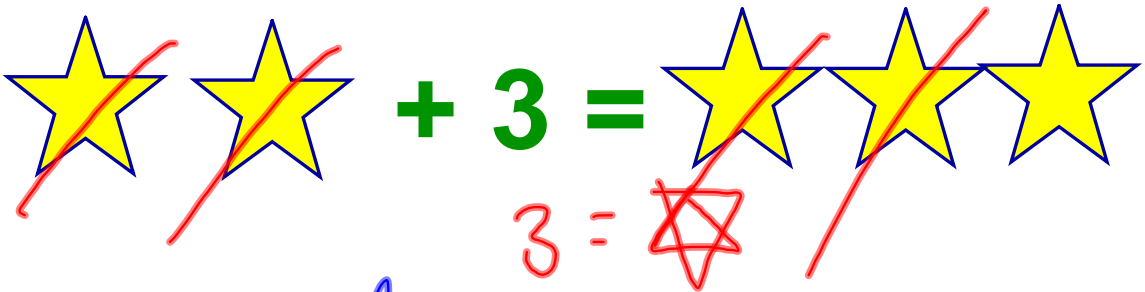
$2x+5=4$ EQUATION

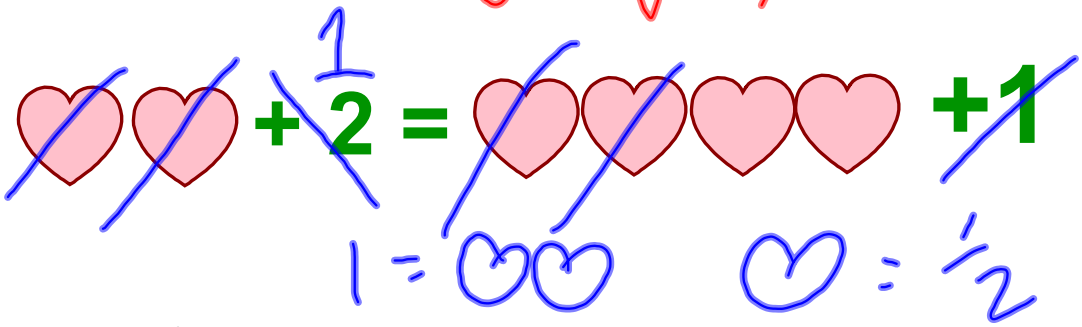
$2x+y$ EXPRESSION

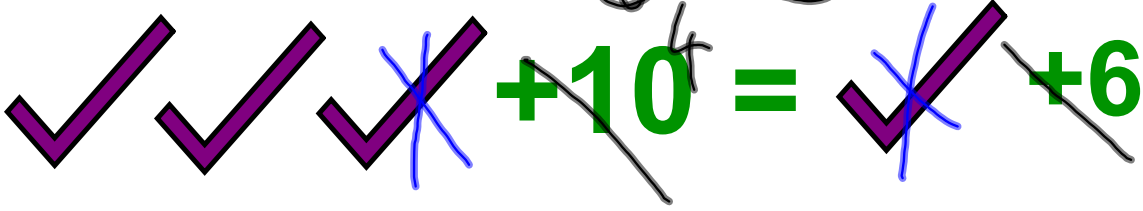
2(x+ 3) = 2x +6 **Identity**

waldos equations

Find the value of each shape:







7b-12 = 3b

$(-3b)\quad 4b-12=0$

$4b=12$

$b=3$

7b-3 =27 - 3b

$(+3b)\quad 10b-3=27$

$+3\quad 10b=30$

$b=3$

e + 2 = 4e -10

$2=3e-10\quad(-e)$

$0=3e-12\quad(-2)$

$e=4$

21- e = 26 - 5e

$21=26-4e\quad(+e)$

$6=5-4e\quad(-21)$

$5=4e\quad e=\frac{5}{4}$

Make up 3 examples for your neighbour.

Expand the bracket

1. $2(x + 7) = 10$

$2x + 14 = 10$

(-14)

$2x = -4$

$x = -2$

2. $5(8 - x) = 35$

$40 - 5x = 35$

(-40)

$-5x = -5$

$x = 1$

$40 = 35 + 5x$

$5 = 5x$

$1 = x$

3. $7(x + 4) - 3(5 + x) = 25$

$7x + 28 - 15 - 3x = 25$

$4x + 13 = 25$

(-13)

$4x = 12$

$x = 3$

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

5. $6(2x + 3) - 2(5 - 3x) = 26$

6. $2(3n - 5) = n$

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Ext D3

Equations with negative n

$10-2n = 4$

$(-10)\quad -2n = -6$

$6 = 2n$

$3 = n$

$(+2n)\quad 10 = 4+2n$

$(-4)\quad 6 = 2n$

$3 = n$

$15 - 3n = 3$

$(+3n)\quad 15 = 3+3n$

$(-3)\quad 12 = 3n$

$4 = n$

$10-2n = 14$

$(+2n)\quad 10 = 14+2n$

$(-10)\quad 0 = 4+2n$

$-4 = 2n$

$n = -2$

$-4-2n = 0$

$-4 = 2n$

$-2 = n$

$2n = -4$

$6 - 4n = 8$

$\frac{x}{4} = 6 \times 4$

$x = 24$

$\frac{y}{3} = 10$

$y = 10 \times 3$

$y = 30$

$\frac{a+6}{4} = 2$

$a + 6 = 2 \times 4$

$a + 6 = 8$

$a = 8 - 6 = 2$

$5 \times \frac{18-b}{5} = 2 \times 5$

$18 - b = 2 \times 5$

$18 - b = 10$

$18 = 10 + b$

$18 - 10 = b$

$8 = b$

$b = 8$ //

3

page 29 middle column only

$\frac{+6}{4} = -1$

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

$\frac{10-2}{3} = 5 - 8$

f) $\frac{2n+132}{13} = n$

$(\times 13)$ $2n + 132 = 13n$

$(-2n)$ $132 = 11n$

$12 = n$

$n = 12$

Forming and solving Equations

I think of a number, double it and add 6.
The answer is 3 times my original number.
What was my original number?

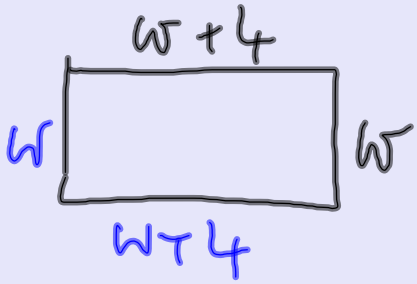
Use n

$2n + 6 = 3n$

$(-2n)$ $\quad 6 = n$

$n = 6$

A rectangle has a length 4cm longer than its width.
The perimeter of the rectangle is 34cm.
By making an equation in x and then solving it, find the length of the rectangle.



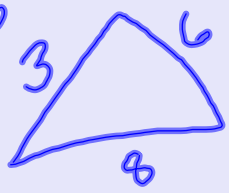
Hint: Draw a diagram

$w + w + (w + 4) + (w + 4) = 34$

$4w + 8 = 34$

$4w = 26$

$w = 6\frac{1}{2}$



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Homework for Friday
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$$\frac{4n}{7} - 1 = 7$$

$$4n - 7 = 49$$

$$4n = 56$$

$$n = 14$$

(+1) $\frac{4n}{7} = 8$

$4n = 7 \times 8 = 56$

$n = 14$

waldos equations