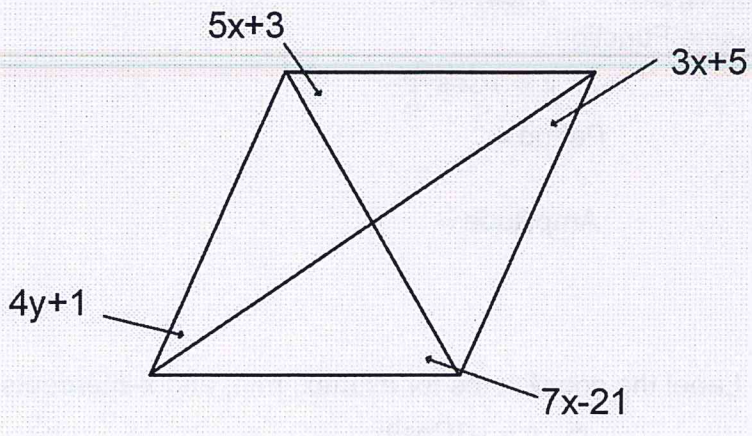
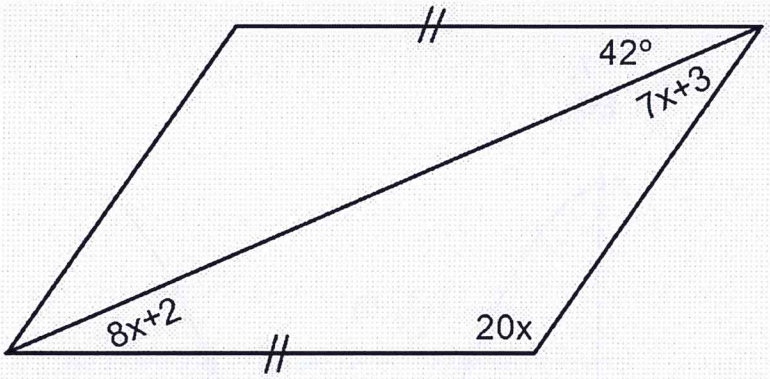
Bellwork Geo Thursday, January 30, 2020

1. Find the value of the variables for which the figure must be a parallelogram.



2. Find the value of x. Then tell if the figure is a parallelogram.



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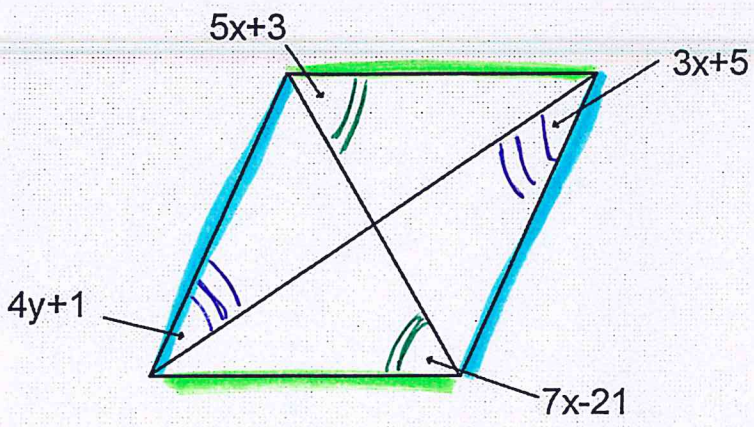
ANSWERS

1. Find the value of the variables for which the figure must be a parallelogram.



IF THESE ARE CONGRUENT GREEN LINES WILL BE PARALLEL (≅ ALT-INT ∠s)

$5x+3 = 7x-21$

$-5x \quad -5x$

$3 = 2x-21$

$+21 \quad +21$

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

$x = 12$

IF THESE ARE CONGRUENT BLUE LINES ARE PARALLEL (ALT-INT ∠s ≅)

$4y+1 = 3x+5$

$4y+1 = 3(12)+5$

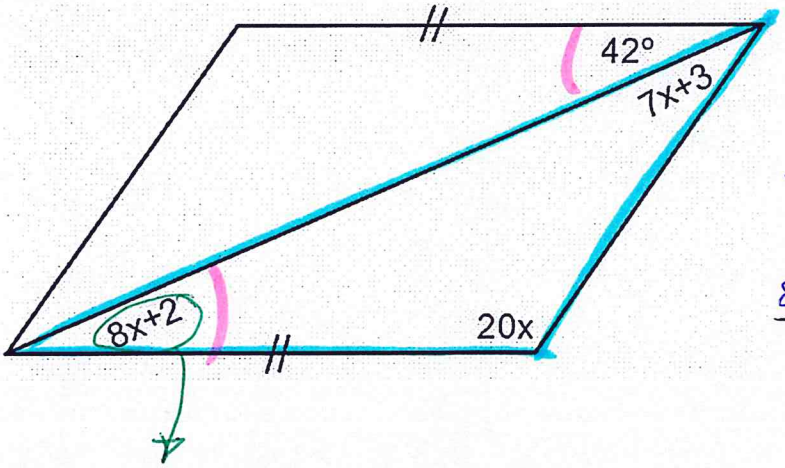
$4y+1 = 41$

$-1 \quad -1$

$\frac{4y}{4} = \frac{40}{4}$

$y = 10$

2. Find the value of x. Then tell if the figure is a parallelogram.



SUM OF THE INTERIOR ANGLES OF A TRIANGLE IS 180°.

$8x+2 + 7x+3 + 20x = 180$

$35x + 5 = 180$

$-5 \quad -5$

$\frac{35x}{35} = \frac{175}{35}$

$x = 5$

IF $x = 5$

$8x+2 = 8(5)+2$

$= 42$

THIS MAKES ALT-INT ∠s ≅ THEREFORE THE ≅ SIDES ARE ALSO PARALLEL.

IF ONE PAIR OF SIDES IS BOTH ∥ & ≅ QUAD MUST BE A ∥-gram