Mathematics

Combining algebraic relationships

Downloadable resource

Miss Kidd-Rossiter

Try this

Antoni has made an equilateral triangle using sticks.

He wants to make a square, pentagon, hexagon, octagon, etc using the same sticks.
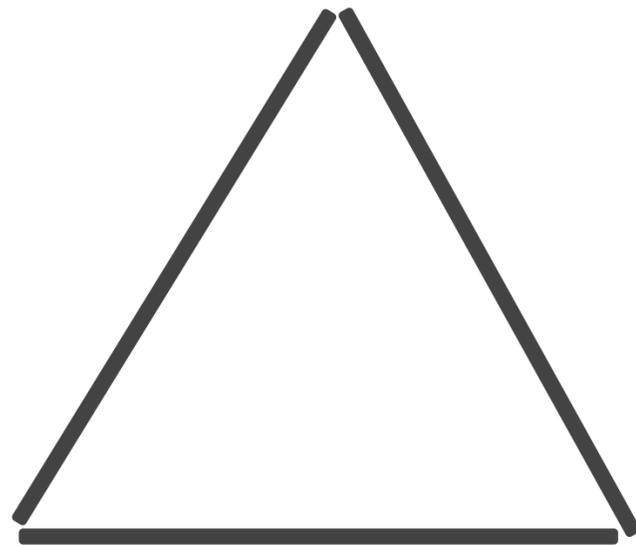
Antoni

The perimeter of the triangle is $4p + 3$ cm

Write expressions for the perimeters of the other shapes he wants to make.

Connect

$$3x + 2 = 4a + 3$$

Connect

$$3x + 2$$

$$4a + 3$$

$$5x + 2$$

$$6a + 5$$

$$3x + 2$$

$$5x + 2$$

$$4a + 3$$

$$6a + 5$$

# Connect

$$3x + 2$$

$$4a + 3$$

$$5x + 2$$

$$6a + 5$$

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

$$6a + 5 - (4a + 3)$$
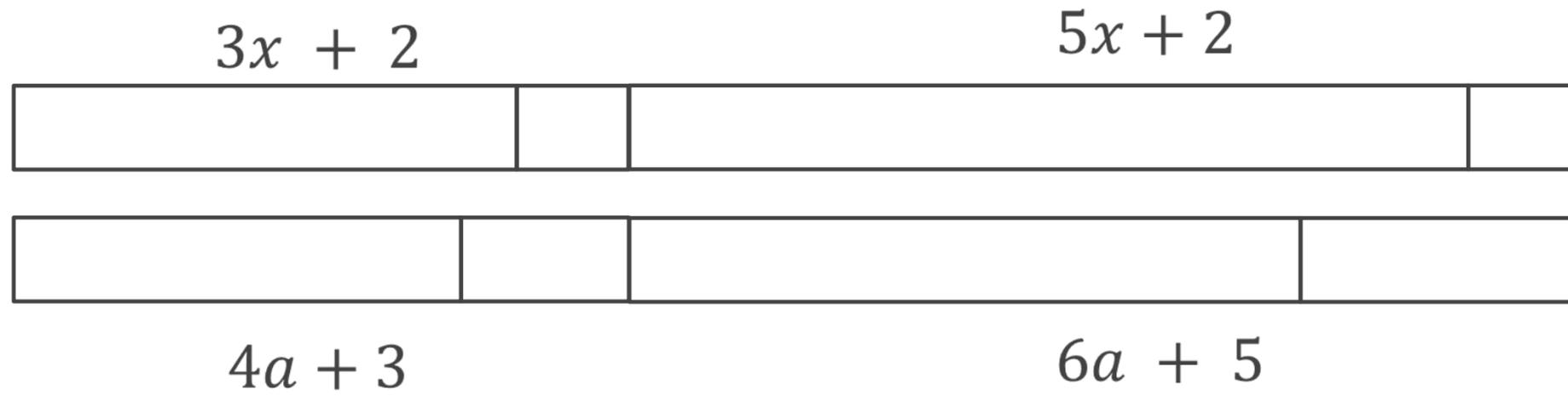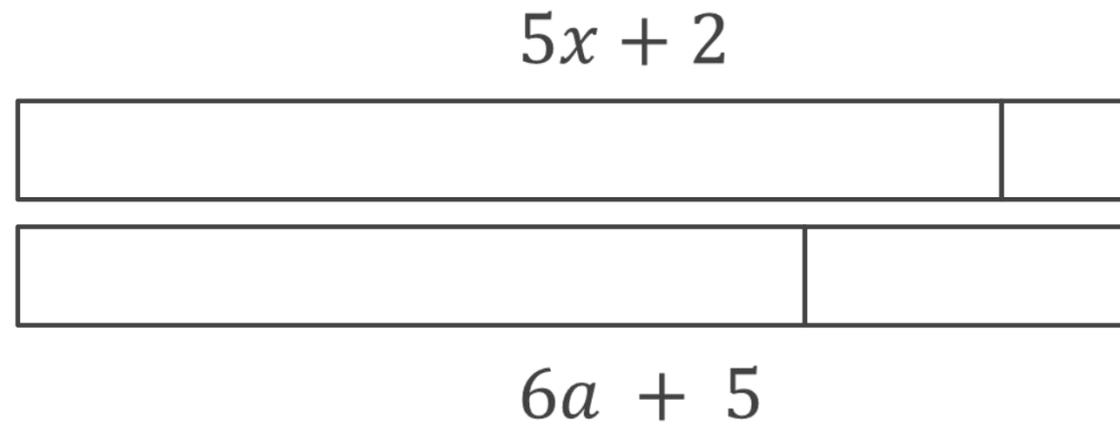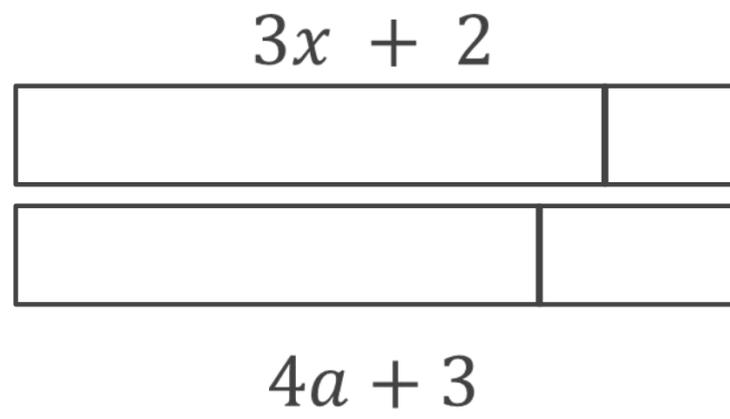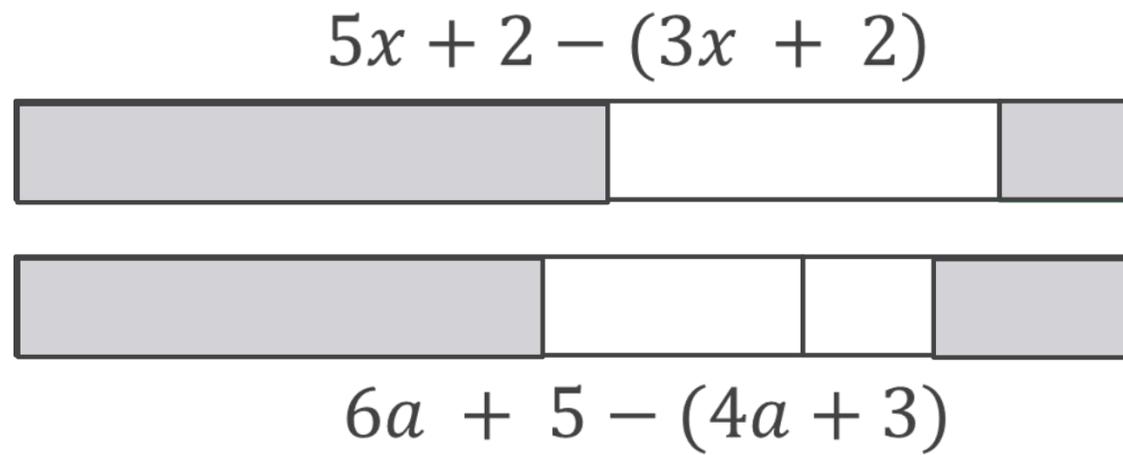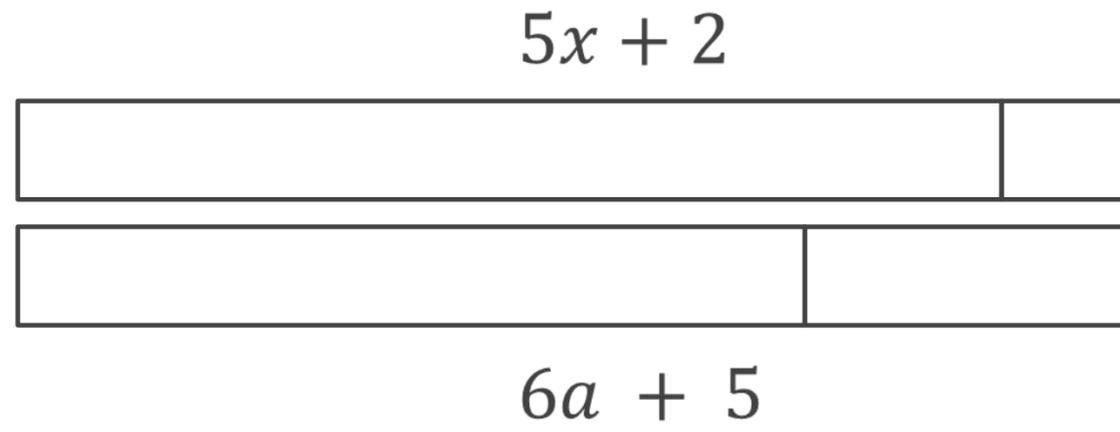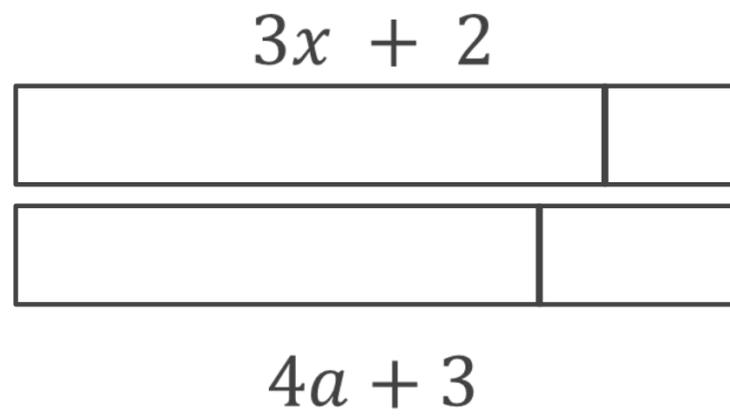
Independent task

Given that:

$2a + 5 = b$ and $3a = b - 1$

Complete:

$4a + 10 =$

$5a + 5 =$

$a - 5 =$

$= -1$

$7a + 10 =$

Independent task

Given that:

$11x - 10y = 18z$ and $4x + 5y = 45$

Complete:

$22x - 20y =$

$7x - 15y =$

$= 135$

$= 18z + 45$

$= 45 - 18z$

Explore

$$3x + 4 = 2y$$

$$5x = 2y + 8$$

$$4 - 2x = 25 - 3y$$

Use the equations in the cards above to find ways of completing the equations in the cards below.

$$6x + 8 = \ ...$$

$$8x + 4 = \ ...$$

$$20x - 1 = \ ...$$

$$8x + 1 = \ ...$$

$$8 + x = \ ...$$

$$2x - 7 = \ ...$$

What other equations can you write?