

fig 1

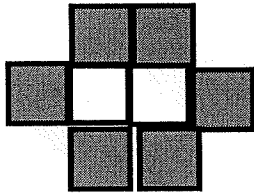


fig 2

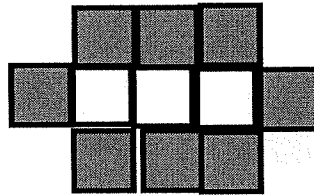


fig 3

Digram (fig)	White	Red	Total
1	1	4	5
2	2	6	8
3	3	8	11

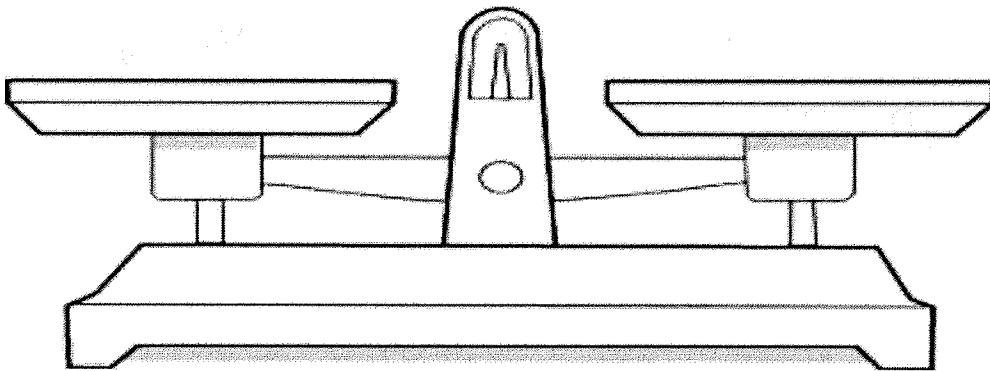
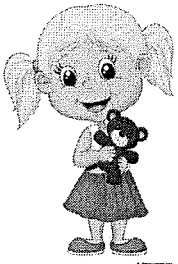
Make an equation to find the following in any figure number?

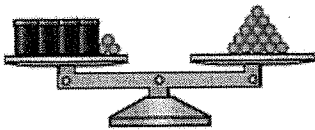
White tiles: w

Coloured tiles: $2r + 2$

Total tiles: $3r + 2$

Is it equal?



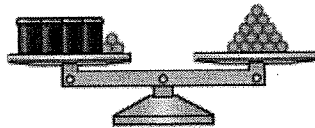


Jacob is using a drawing to represent the steps needed to solve $4n + 3 = 15$. Megan is asking questions to help Jacob improve his explanation.

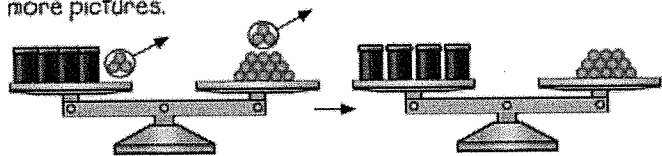
? How can Jacob improve his explanation?

Jacob's Explanation

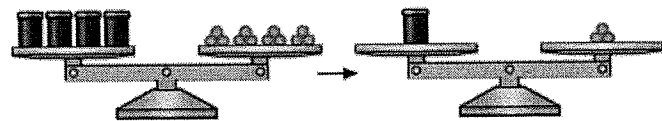
I represented the equation with a picture of a balance scale.



I represented each step in the solution with more pictures.



This picture represents $4n + 3 - 3 = 15 - 3$.



This means $n = 3$.

Megan's Questions

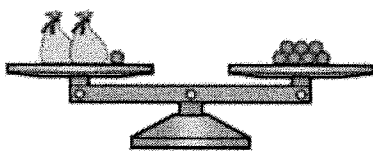
How did you know what to put on each side of the balance scale?

Why did you subtract the 3 counters from each side first?

What does this drawing represent?

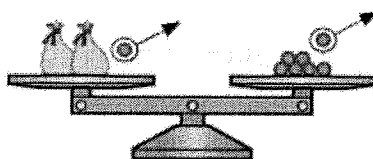
What step did you use to go from $4n = 12$ to $n = 3$? You didn't explain it.

How can you show that your solution is correct?

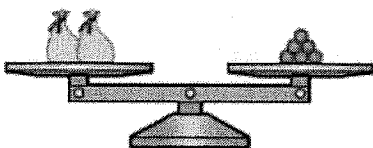


$$2n + 1 = 7$$

I wrote the balance problem as an equation.

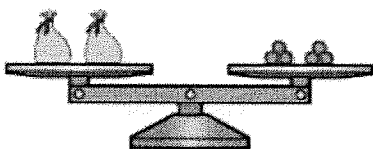


I imagined removing the counter from the left pan. I had to remove 1 counter from the right pan to keep the scale balanced.



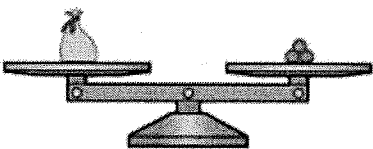
$$2n = 6$$

This made the equation $2n = 6$.



$$n + n = 3 + 3$$

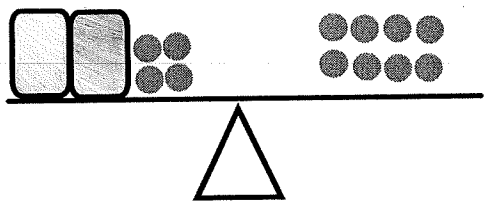
I regrouped the counters on the right pan into 2 equal groups.



$$n = 3$$

Each container is balanced by 3 counters.

Each bag contains 3 counters.



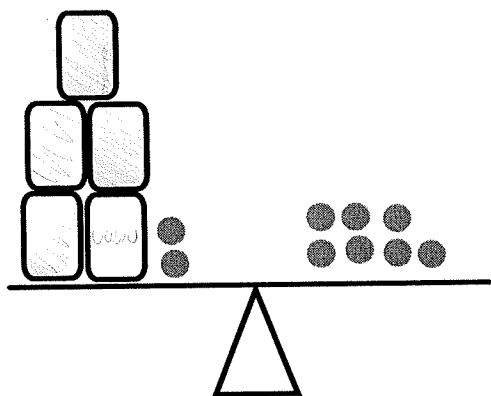
$$2n + 4 = 8$$

$$2n + 4 - 4 = 8 - 4$$

$$2n = 4$$

$$2n \div 2 = 4 \div 2$$

$$n = 2$$



$$5n + 2 = 7$$

$$5n + 2 - 2 = 7 - 2$$

$$5n = 5$$

$$5n \div 5 = 5 \div 5$$

$$n = 1$$

uuu

$$3x + 3 = 9$$



$$3x + 3 = 9$$

$$3x + 3 - 3 = 9 - 3$$

$$3x = 6$$

$$3x \div 3 = 6 \div 3$$

$$x = 2$$

$$x + 4 = 10$$

$$x + 4 - 4 = 10 - 4$$

$$x = 6$$

$$X - 9 = 15$$

$$x - 9 + 9 = 15 + 9$$

$$x = 24$$

$$z + 8 = 10$$

$$z + 8 - 8 = 10 - 8$$

$$z = 2$$

?
hehe
uwu
lol

$$x + (-5) = (-1)$$

$$x + (-5) - (-5) = (-1) - (-5)$$

$$x = 4$$

$$p - (-3) = 10$$

$$p - (-3) + (-3) = 10 + (-3)$$

$$p = 7$$

$$2h + 6 = 12$$

$$2h + 6 - 6 = 12 - 6$$

$$2h = 6$$

$$2h \div 2 = 6 \div 2$$

$$h = 3$$

$$\frac{c}{6} = 2$$

$$\frac{c}{6} \times 6 = 2 \times 6$$

$$c = 12$$

$$4h - 3 = 21$$

$$4h - 3 + 3 = 21 + 3$$

$$4h = 24$$

$$4h \div 4 = 24 \div 4$$

$$h = 6$$

$$x - 7 = 4$$

$$x - 7 + 7 = 4 + 7$$

$$x = 11$$