Problem Solving Year 2/ P3

5x + 7 = 22

- An equation must have an equals symbol. There is a mathematical expression on either side.
- Algebraic equations always have at least one unknown, usually represented by a letter.
- We can find the unknown by performing the same operations to each side of the equation

$$5x + 7 = 22$$

minus 7 ⤵   minus 7 ⤵

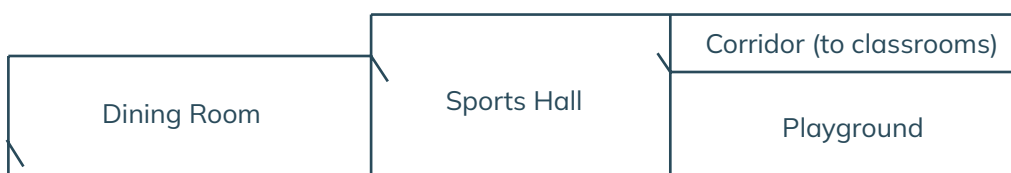$$5x = 15$$

divide by 5 ⤵   divide by 5 ⤵

$$x = 3$$

Can you fill in the gaps by converting between words and algebraic equations?

Words	Algebraic Equation
Three lots of a number is twelve.	3x = 12
A number divided by seven is 6.	
	8y + 1 = 81
Take a number, add eleven, then times by two. That equals thirty.	
	10x + 3 = 33

Solve these equations to find x.

1 6x = 66   x =

2 6x = 66   x =

3 6x = 66   x =

4 4x - 3 = 29   x =

5 4x - 3 = 29   x =

6 4x - 3 = 29   x =

7 (x ÷ 3) + 2 = 8   x =

8 (x ÷ 3) + 2 = 8   x =

9 (x ÷ 3) + 2 = 8   x =

10 2(12x - 2) = 68   x =

11 2(12x - 2) = 68   x =

12 2(12x - 2) = 68   x =

A school is building a new, rectangular dining room. The room is three times longer than it is wide. If the total perimeter of the dining room is 96m, what is the length and width?

Corridor (to classrooms)

Dining Room

Sports Hall

Playground

Can you solve this problem using an algebraic equation?