## Algebra

Simultaneous Equations

Blue Zone	Green Zone	Yellow Zone         Image: Constraint of the second secon	Red Zone
E.g. sad, sick, tired,	E.g. happy, calm,	E.g. worried, excited,	E.g. angry, terrified,
bored	focused, ok	annoyed	elated

https://app.mymaths.co.uk/196-lesson/simultaneous-equations-1

### Linear Simultaneous Equations



 1
 3t + c = 220

 2
 3t + 2c = 320

What is the difference? In order to find the difference, we need to find a way to eliminate one of the variables. In this example, subtracting will eliminate t from our equation. c = 100

Substitute c into equation 1

3† + 100 = 220

and solve

3t = 220 - 100

t = 420 ÷ 3

# Linear Simultaneous Equations



$$\begin{array}{c|c} 1 & 4y + 3x = 15 \\ \hline 2 & 4y + x = 13 \\ \hline 1 & - & 2 \end{array}$$

SSS

"If the Signs are the Same, you Subtract"

*x* = 2 ÷ 2

2x = 2

Substitute x into equation 2

$$4y + 1 = 13$$
  
 $4y = 12 - 1$   
 $y = 32 \div 4$ 

#### Solve these simultaneous equations.

$$6c + 2d = 26 5e + 3f = 20 6c + 4d = 28 7e + 3f = 22 e = e = e = f =$$

$$4g + 3h = 30$$
  
 $4g + 8h = 40$   
 $g =$   
 $h =$ 

$$8j + 2k = 42$$
  
 $7j + 2k = 37$   
 $j =$ 

#### Solve these simultaneous equations.

$$8e + 8f = 72$$
  
 $7e + 8f = 71$   
 $e =$ 

$$8g + 8h = 72$$
  
 $8g + 5h = 54$   
 $g =$   
 $h =$ 

#### Solve these simultaneous equations.

$$8g + 8h = 56 4j + 3k = 19$$

$$3g + 8h = 51 4j + 2k = 18$$

$$g = j = k =$$

$$4m + 3n = 36$$
  
 $4m + 7n = 68$   
 $m =$ 

$$4p + 8q = 24$$
  
 $6p + 8q = 32$   
 $p =$ 



Traffic light your work today.

Thumbs down- I don't understand it Thumbs across- I understand some of it Thumbs up- I understand all of it

# A further task will be on the website for you to complete later today – one merit for all who do $\odot$