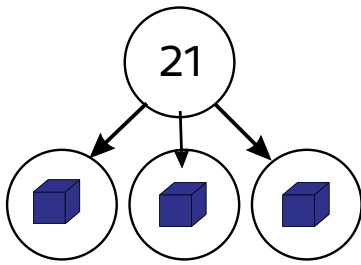
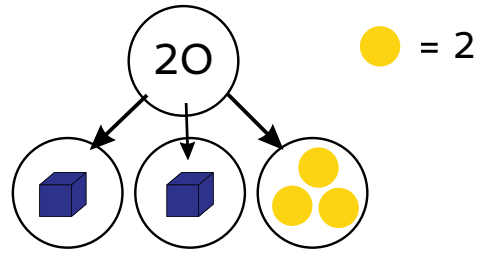


# 11+ Maths Homework Week 20

## One Step and Two Step Equations



$$21 \div 3 = 7$$

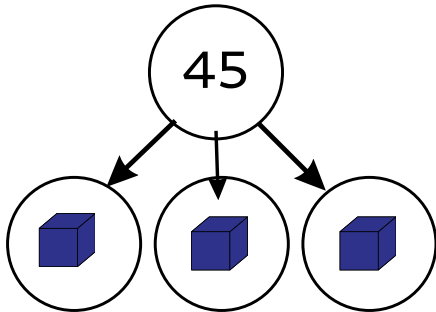


$$\text{Step 1: } 20 - 2 - 2 - 2 = 14$$

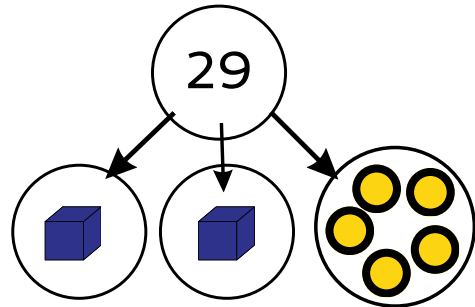
$$\text{Step 2: } 14 \div 2 = 7$$

1) Solve for  in the following equations if  = 1

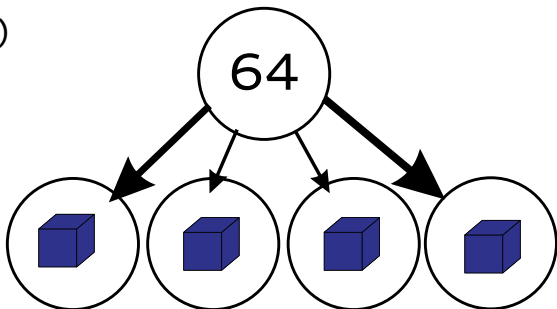
a)



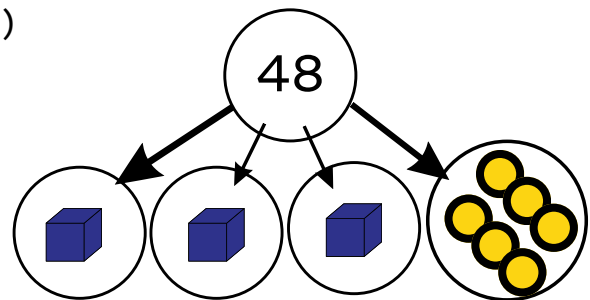
b)



c)



d)



e)  $3t - 9 = 18$

f)  $45 = 10b - 5$

g)  $\frac{1000}{p} - 21 = 229$

h)  $\frac{x}{8} + 2.5 = 11.5$


p

8

## Algebraic Sequences

Sequence: 2, 5, 8, 11

$\overset{1^{\text{st}} \text{ Term}}{2}$     $\overset{2^{\text{nd}} \text{ Term}}{5}$     $\overset{3^{\text{rd}} \text{ Term}}{8}$     $\overset{4^{\text{th}} \text{ Term}}{11}$



Step 1: Find the difference between each term.  $\rightarrow 3n$

Step 2: Substitute  $n$  with your first term and then observe what operation you need to do to your answer to get to the number in the first term..  $3(1) \rightarrow 3 \times 1 = 3 - 1$

Step 3: Check that your expression works for each sequence by substituting  $n$  with your term.  $\rightarrow$

$$3n - 1 \rightarrow 3(2) - 1 \rightarrow 5$$

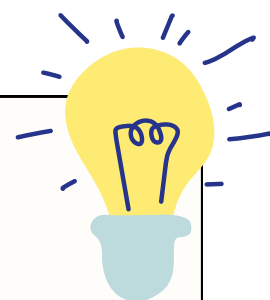


2) Sequence: 3, 7, 11, 15, ...

Write a formula for the  $n$ th term and use your formula to find the 10th term.

3) Sequence: 12, 9, 6, 3, ...

Write a formula for the  $n$ th term and find the 8th term.

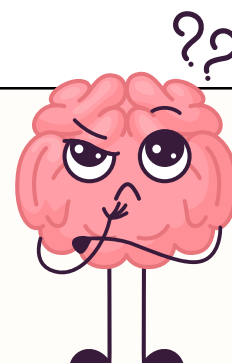


4) Sequence: 5, 12, 19, 26, ...

Write a formula for the  $n$ th term and find the 15th term.

5) Sequence: 100, 95, 90, 85, ...

Write a formula for the  $n$ th term and find the 20th term.





## Answer Key

### Page 1: One Step and Two Step Equations

1a)  $45 \div 3 = 15$

b)  $29 - 5 \div 2 = 12$

c)  $64 \div 4 = 16$

d)  $48 - 6 \div 3 = 14$

e)  $t = 9$

f)  $b = 5$

g)  $p = 4$

h)  $x = 72$

### Page 2: Algebraic Sequences

2)  $4n - 1$

10<sup>th</sup> term = 39

3)  $15 - 3n$

8<sup>th</sup> term = -9

4)  $7n - 2$

15<sup>th</sup> term = 103

5)  $105 - 5n$

20<sup>th</sup> term = 5

### Page 3: Word Problems

6)

Equation:  $4b + 18 = 70$

Solve:

$4b + 18 = 70$

$4b = 70 - 18$

$4b = 52$

$b = 52 / 4 = 13$

7)

Equation:  $10n + 35$

Day 20 = 235 tickets

8)

Equation:  $30n + 90$

Week 12: £450 profit