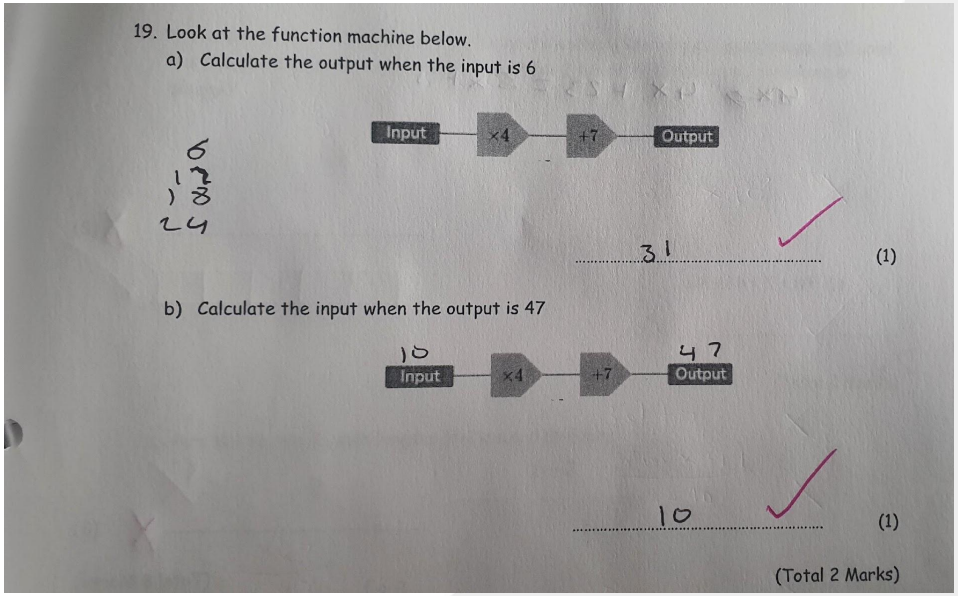
Progression in Mathematics at Hessle Academy

Algebra

Year 7

Learning Objective:
Use function machines to determine inputs and outputs.



19. Look at the function machine below.

a) Calculate the output when the input is 6

6 → 24 → 31

31 ..... (1)

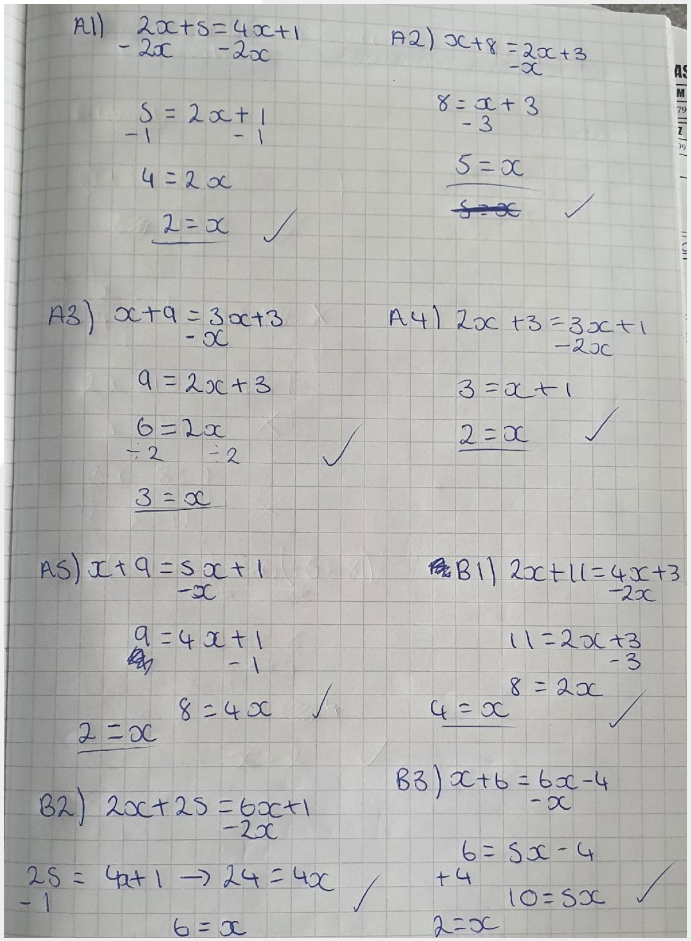
b) Calculate the input when the output is 47

10 ..... (1)

(Total 2 Marks)

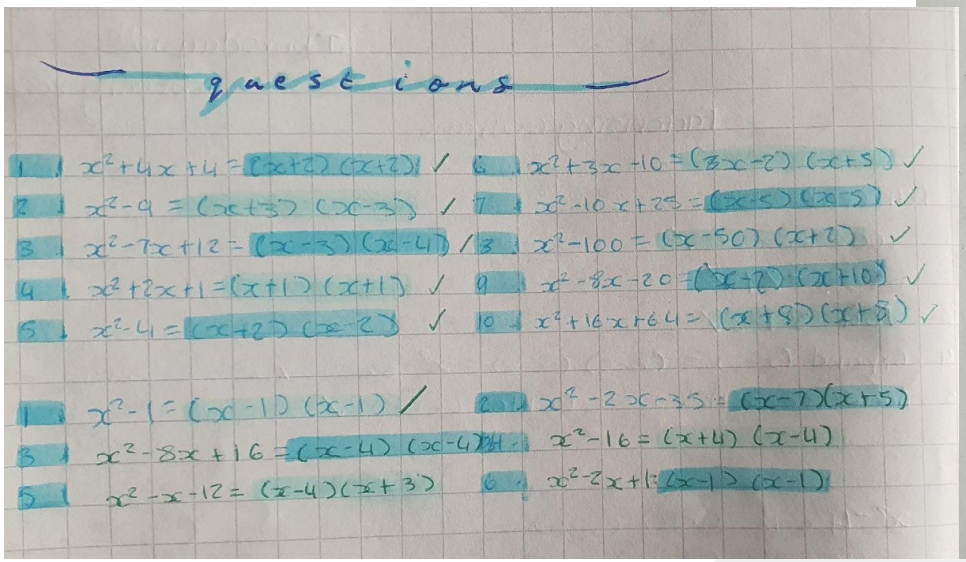
Year 8

Learning Objective:
Solve linear equations



Year 9

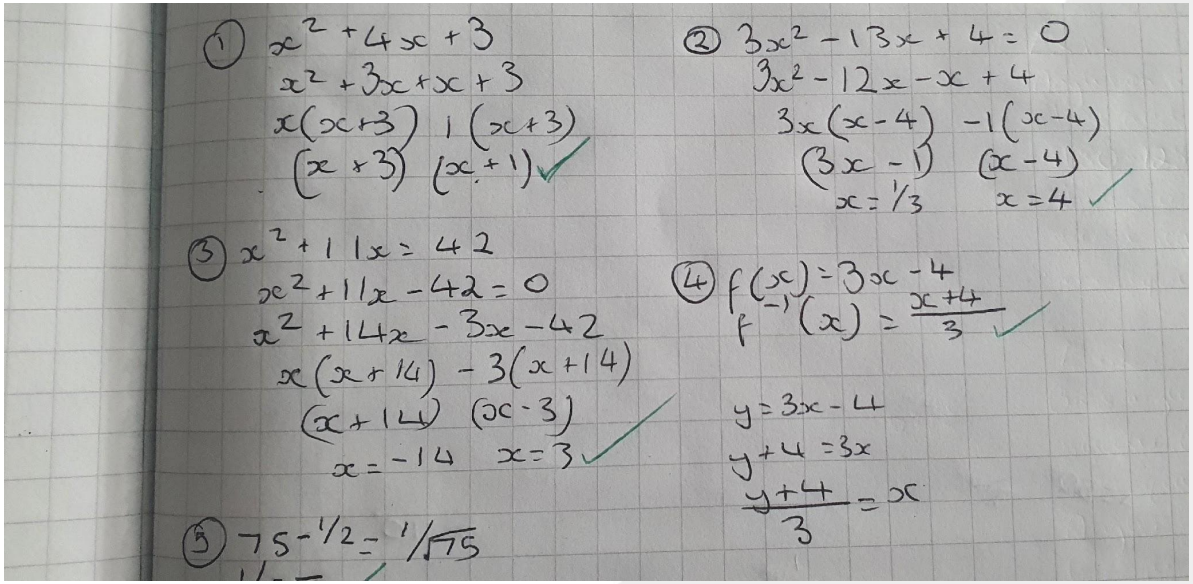
Learning Objective:
Factorise and expand algebraic expressions

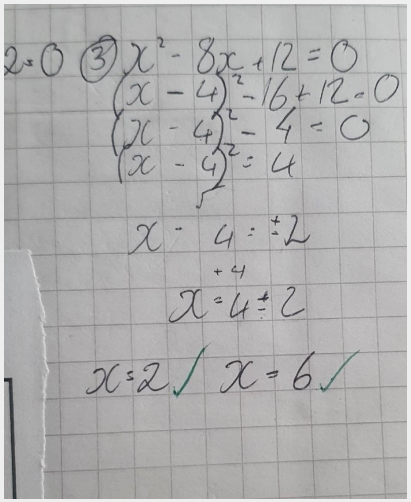


Q	Expanded	Factorised
1	$3p + 15$	$3(p+5)$
2	$3p + 18$	$3(p + 6)$
3	$6p + 18$	$3(2p+3)$
4	$6p + 15$	$3(p+5)$
5	$6p + 10$	$2(3p + 5)$
6	$6p - 10$	$2(3p-5)$
7	$6p^2 - 10p$	$2p(3p - 5)$
8	$6p^2 - 10$	$2(3p^2-5)$
9	$6 - 10p^2$	$2(3-5p^2)$
10	$-6+10p^2$	$-2(3 - 5p^2)$
11	$-6 + 12p^2$	$6(2p^2-1)$
12	$-6 + 11p^2$	

Year 10

Learning Objective:
Find solutions to non linear equations such as quadratic equations.

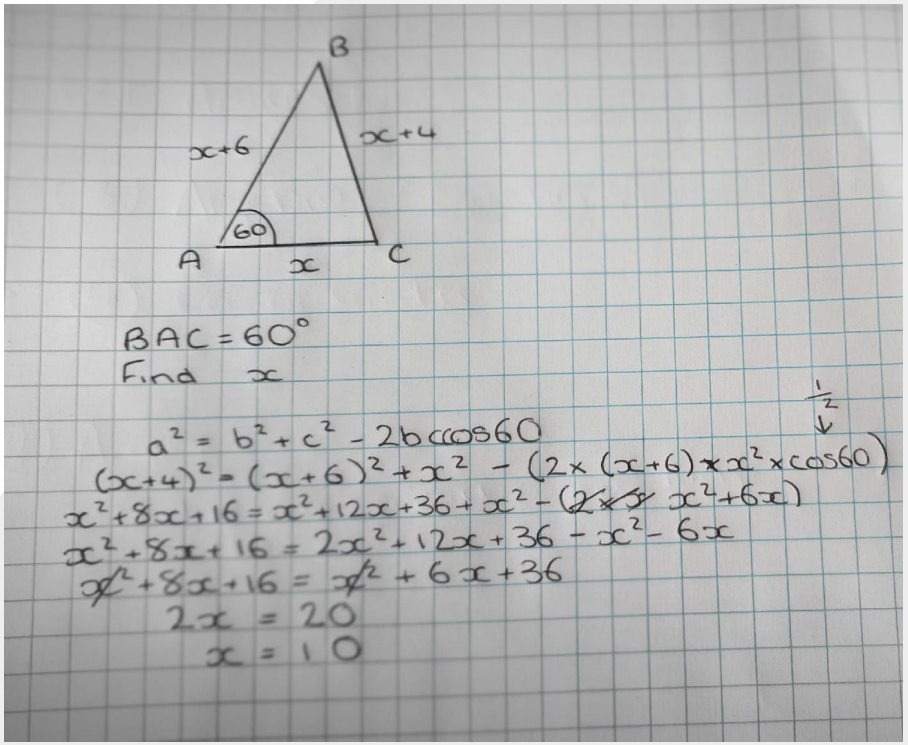




Year 11

Learning Objective:

Apply algebraic knowledge to solve multistep problems.

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