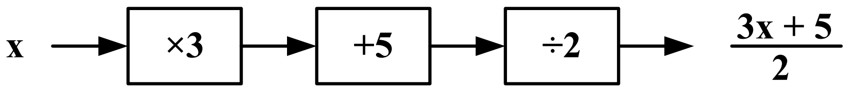
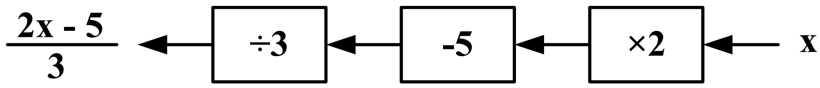
Success Criteria for substitution into a function		
Instruction	**Example**	**Have you done it?**
Look at the function	$f(x) = 3x + 4$	
For the rule: *f(-6)*, replace the x with -6	$f(-6) = 3(-6) + 4$	
Perform the calculation as normal.	$f(-6) = 3(-6) + 4$ $= -18 + 4$ $= -14$	

Success Criteria for Composite Functions		
Instruction	**Example**	**Have you done it?**
Find the functions	$f(x) = 2x + 7$ $g(x) = 3x^2$	
Determine which function you do first. In this case, do $f(x)$ and then $g(x)$	Find $gf(9)$	
Substitute 9 into the function $f(x)$	$f(9) = 2x + 7$ $= 2(9) + 7$ $= 18 + 7$ $= 25$	
Substitute 25 into $g(x)$	$g(25) = 3(25^2)$ $= 3(625)$ $= 1875$	
Write out the question and answer	$fg(9) = 1875$	

Success Criteria for Determining the Range or Codomain of a function		
Instruction	**Example**	**Have you done it?**
Examine the domain of the function	$f: x \rightarrow 3x + 2$ $Domain\ 1 \leq x < 4$	
Substitute the lowest number into the function	$f(1) = 3(1) + 2 = 5$	
Substitute the next number into the function	$f(2) = 3(2) + 2 = 8$	
Substitute the highest number into the function	$f(4) = 3(4) + 2 = 14$	
State the range or co-domain	$5 \leq f(x) < 14$	
Be careful of excluded values	Check that if you have functions such as $g(x) = \frac{2}{3+x}$ you miss out -3 as this would mean division by zero.	

Success Criteria for finding an Inverse Function		
Instruction	Example	Have I done it?
Find the function	$h(x) = \frac{3x+5}{2}$	
Write the function out as a function machine.		
Reverse the function machine		
Write out the new function	$g^{-1}(x) = \frac{2x-5}{3}$	

Success Criteria for finding an Inverse Function: the efficient method		
Instructions	Example	Have I done it?
Locate the function	Find the Inverse function of $f(x) = \frac{\sqrt{5x+1}}{4}$	
Let y = f(x)	$y = \frac{\sqrt{5x+1}}{4}$	
Swap round the x and ys	$x = \frac{\sqrt{5y+1}}{4}$	
Rearrange to make y the subject	$4x = \sqrt{5y+1}$ $16x^2 = 5y+1$ $16x^2 - 1 = 5y$ $\frac{16x^2-1}{5} = y$ $y = \frac{16x^2-1}{5}$	
This is the inverse of $f(x)$	$f^{-1}(x) = \frac{16x^2-1}{5}$	