Solving Equations of One Variable

The Goal
Move all variables to one side of the equation and all the numbers to the other side of the equation.

Example

2(M+2)	=	4(M-1)	
2M+4	=	4M-4	(expand to isolate variable)
+4		+4	(add 4 to both sides of the equation)
2M+8	=	4M	
-2M		-2M	(subtract 2M from both sides of the equation)
8	=	2M	
÷ 2		÷ 2	(divide both sides by 2 (why?))
4	=	M	

1. 5x-2=3
2. 5x-2=3x
3. 5(t-1)=2t+4
4. 2f=4(f-1)
5. 20d+5=105
6. 10(4-H)+10=4(20H-10)
7. 8Q+20=2(40-Q)
8. Write your own equation (with the variable occuring on both side of the equation) so that the solution is a positive integer.
9. In ten years John will be twice the age he was 5 years ago. How old is John today?
10. Write your own word problem so that the solution is a positive integer.

Solutions to odd numbred problems:
1. $x = 1$, 3. $d = 5$, 5. $L = -19$, 7. $P = 1$, 9. $f = 2$, 11. $J = 100$, 13. $r = 1/10$