Consider the following set of sequences defined over $-3 \le n \le 3$ and zero elsewhere (i.e. they are finite-length):

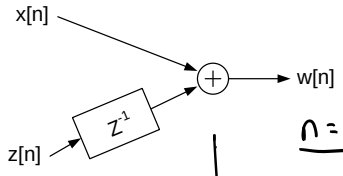
x[n] = [3 -2 -1 -1 4 5 2]
y[n] = [0 7 1 -3 4 9 -2]
z[n] = [-5 4 3 6 -5 0 1]
↑

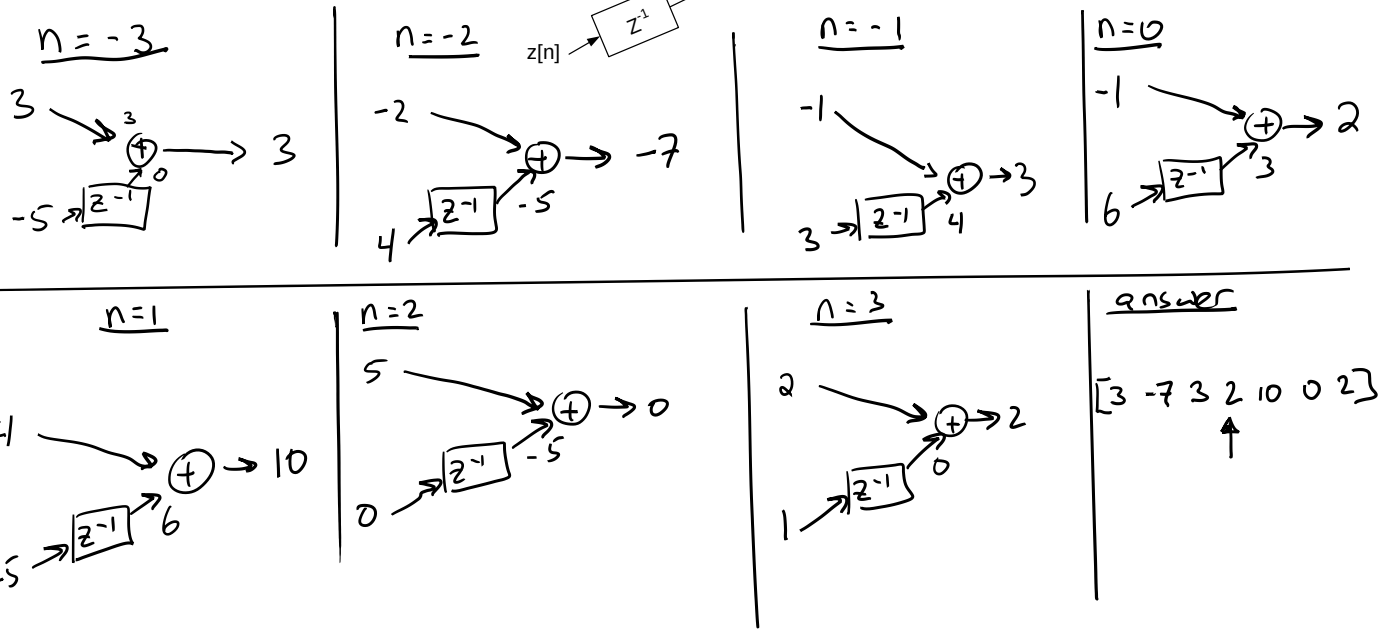
Write each of your answers as a sequence, e.g. [1 2 3 4 5 6]
↑

P1 Find r[n] = x[n] – 2 y[n] for $-3 \le n \le 3$

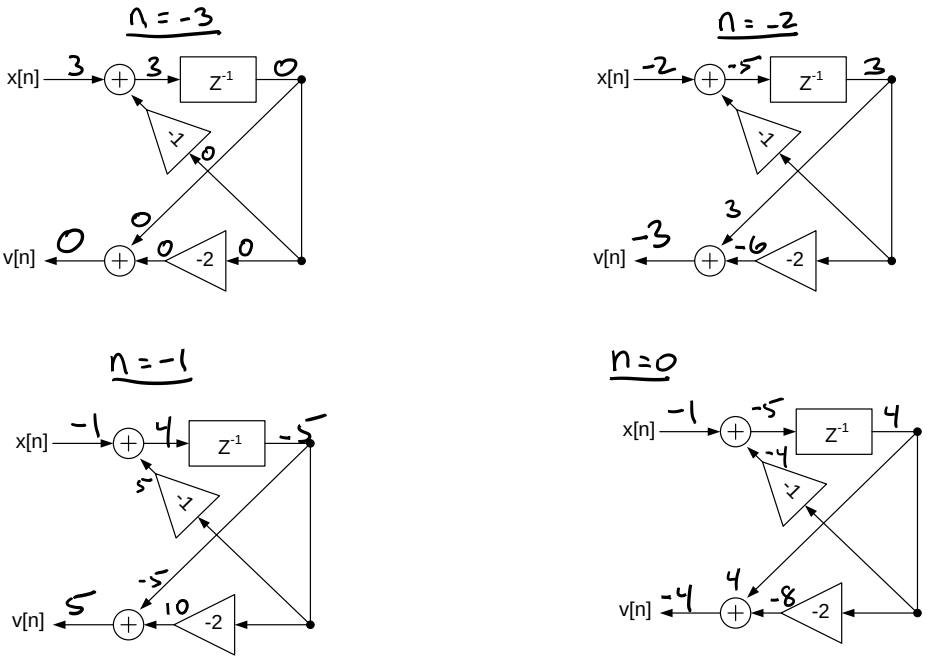
n	x[n]	-2 y[n]	r = x[n] - 2 y[n]
-3	3	0	3
-2	-2	-14	-16
-1	-1	-2	-3
0	-1	6	5
1	4	-8	-4
2	5	-18	-13
3	2	4	6 ans

P2 Find w[n] for $-3 \le n \le 3$



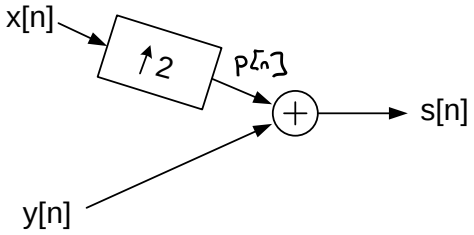


P3 Find v[n] for $-3 \le n \le 0$



$$[0 \quad -3 \quad 5 \quad -4]$$

P4 Find s[n] for $-3 \le n \le 3$



$$x[n] = [3 \quad -2 \quad -1 \quad -1 \quad 4 \quad 5 \quad 2]$$

$$p[n] = [3 \quad 0 \quad -2 \quad 0 \quad -1 \quad 0 \quad -1 \quad 0 \quad 4 \quad 0 \quad 5 \quad 0 \quad 2]$$

$$y[n] = [0 \quad 7 \quad 1 \quad 3 \quad 4 \quad 9 \quad 2]$$

$$s[n] = p[n] + y[n] = [0 \quad 6 \quad 1 \quad -4 \quad 4 \quad 13 \quad -2]$$