Station 1 Work

1. **Method 1**

$n=1,\ 4$
$n=2,\ 1$
$n=3,\ -2$
$n=4,\ -5$
$n=5,\ -8$
$n=6,\ -11$
$n=7,\ -14$
add: -35

Method 2

2nd/stat/math/5/2nd/stat/ops/5
sum(seq(7−3X, X, 1, 7))

(B)

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2. **method 1**

$n=3 \therefore \frac{3-1}{3+1} = \frac{2}{4} = \frac{1}{2}$

(C)

Method 2

2nd/stat/ops/5
seq(((n−1)/(n+1)), X, 1, 3)
then look at term #3

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3. check to see which has ~~not~~ a common difference (A)

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4. **method 1**

$a_n = a_1 + (n-1)d$
$15 = a_1 + (6-1)4$
$a_1 = -5$

method 2

$15-4=11 \quad -4=7 \quad -4=3 \quad -4=-1 \quad -4\neq -5$
$a_5 \quad a_4 \quad a_3 \quad a_2 \quad (a_1)$

(B)

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5. **method 1**

$d = 8-5 = 3$
$a_n = -1 + (n-1)3$
$a_n = 3n-4$
has to be D

Method 2

let n=1 & plug into formula to see if yields a −1, then let n=2 to see if yields 2

A: $a_1 = 2$ so no!

B: $a_1 = -1$
$a_2 = -3$ so no!

C: $a_1 = -1$
$a_2 = 2$ ✓
$a_3 = 5$ ✓
$a_{10} = 26$

Then check sum:
$S_{10} = \frac{10}{2}(-1+26)$
$S_{10} = 125$

(C)

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6. Need $a_n = a_{n-1} + d$

$d = \frac{8-(-1)}{5-2} = \frac{9}{3} = 3$ so $a_n = a_{n-1} + 3$

(A)