

Contours done using ChatGPT

A.

STACK

Frame: $f(y=2)$

$y \rightarrow 2$

$x \rightarrow y+1 \rightarrow 3$

Loop iteration 0:

$i \rightarrow 0$

$\text{temp} \rightarrow 0*2 + 3 = 3$

Loop iteration 1:

$i \rightarrow 1$

$\text{temp} \rightarrow 1*2 + 3 = 5$

Loop iteration 2:

$i \rightarrow 2$

$\text{temp} \rightarrow 2*2 + 3 = 7$

Frame: main

$x \rightarrow 2$

B.

STACK

Frame: block scope

a → 10 (SHADOWS main.a)

Frame: main

a → 5

ref_To_An_A —————▶ a (in main)

C.

HEAP

(int) 42 ←—— p, q

STACK

Frame: block

q —————▶ (heap int 42)

Frame: main

p —————▶ (heap int 42)

D.

HEAP

(int) 42 ←—— p, q

STACK

Frame: block

q —————▶ (heap int 42)

Frame: main

p —————▶ (heap int 42)
