

10.1

Score: \_\_\_\_\_

1. What does this AST evaluate to?

---



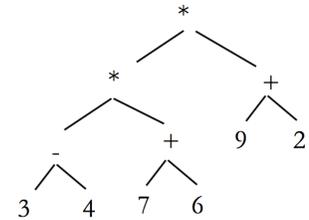
---



---



---



2. What does this AST evaluate to?

---



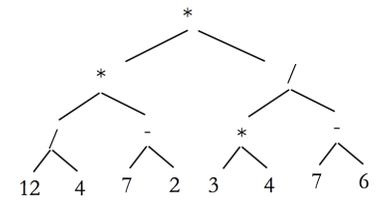
---



---

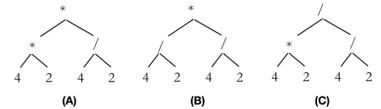


---



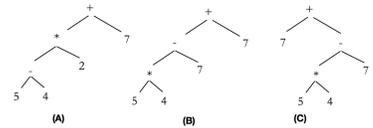
3. Which of the following ASTs does **not** evaluate to 4?

- A
- B
- C



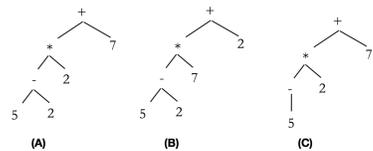
4. Which of the following ASTs is equivalent to  $(+ (* (- 5 4) 2) 7)$ ?

- A
- B
- C



5. Which of the following ASTs is equivalent to  $(+ (* (- 5) 2) 7)$ ?

- A
- B
- C



6. Which of the following prefix notation expressions is equivalent to  $(2 * 5 + 3 * 4)$ ?

- A  $(* (+ 3 5) (* 2 4))$
- B  $(( * 2 5) + (* 3 4))$
- C  $(+ (* 2 5) (* 3 4))$
- D  $(+ (2 * 5) (3 * 4))$
- E  $(* (+ 2 5) (+ 3 4))$

7. Which of the following prefix notation expressions is equivalent to  $(2 + X^2 * 4 + 3)$ ?

- A  $(* 4 (+ (+ 3 (sqr X)) 2))$
- B  $(+ 3 (+ (* 4 (sqr X))) 2)$
- C  $(+ 3 (+ (* 4 (sqr X^2)) 2))$
- D  $(+ 3 (+ (* 4 X^2) 2))$
- E  $(+ 3 (+ (* 4 (sqr X)) 2))$

8. Starting with an empty stack, what is the **output** after the following operations are performed, given the input string of 123456? *Hint*: Anything popped off the stack goes to the output.

OXOOOXOXX

- A 3452
- B 1345
- C 4235
- D 4235
- E 1234

9. Starting with an empty stack, what is the **output** after the following operations are performed, given the input string of 123456? *Hint*: Anything popped off the stack goes to the output.

OOXOXOXXO

- A 3452
- B 2354
- C 4235
- D 1465
- E 1234