1. What is the output of the expression (5 << 1)?

a) 10
b) 2
c) 20
d) 5

Answer: a) 10
Explanation: Left shift (<<) multiplies by 2^n. So, $5 << 1 = 5 \times 2^1 = 10$.

2. What does the expression (16 >> 2) evaluate to?

a) 8
b) 4
c) 2
d) 1

Answer: b) 4
Explanation: Right shift (>>) divides by 2^n. So, $16 >> 2 = 16 / 2^2 = 4$.

3. If int a = 7; a = a << 2;, what is the value of a?

a) 14
b) 28
c) 3
d) 21

Answer: b) 28
Explanation: $7 << 2 = 7 \times 2^2 = 28$.

4. Which of the following is equivalent to a++?

a) a = a + 1
b) ++a
c) a + 1
d) a = +1

Answer: a) a = a + 1
Explanation: Both a++ and a = a + 1 increment a by 1 (but timing of increment differs).

5. What will be the output of the code?

```
int a = 5;
printf("%d", a++);
```

a) 6
b) 5
c) Error
d) Undefined

Answer: b) 5
Explanation: Post-increment prints the old value first, then increments.

6. What will be the output?

```c
int a = 5;
printf("%d", ++a);
```

a) 4
b) 5
c) 6
d) Error

Answer: c) 6
Explanation: Pre-increment increments first, then prints.

7. What is the output of:

```c
int a = 8;
printf("%d", a >> 1);
```

a) 16
b) 4
c) 2
d) 1

Answer: b) 4
Explanation: Right shift divides by 2: 8 >> 1 = 8 / 2 = 4.

8. What happens when you perform (1 << 3)?

a) 1
b) 2
c) 3
d) 8

Answer: d) 8
Explanation: $1 \times 2^3 = 8$.

9. If int a = 10; printf("%d", a--); then a becomes:

a) 10
b) 11
c) 9
d) 8

Answer: c) 9
Explanation: Post-decrement prints old value (10), then reduces to 9.

10. What will be the value of b after this code?

int b = 4;
b = b >> 2;

a) 4
b) 2
c) 1
d) 0

Answer: c) 1
Explanation: 4 >> 2 = 4 / 2² = 1.
11. What is the result of (3 << 3)?

a) 6
b) 9
c) 24
d) 12

Answer: c) 24
Explanation: Left shift multiplies by 2³ ⇒ 3 × 8 = 24.

12. Which of the following statements about shift operators is TRUE?

a) Left shift divides the number by 2
b) Right shift multiplies the number by 2
c) Left shift multiplies by powers of 2
d) Right shift has higher precedence than multiplication

Answer: c) Left shift multiplies by powers of 2

13. What will be printed?

```
int x = 10;
printf("%d", --x);
```

a) 9
b) 10
c) 11
d) Error

Answer: a) 9
Explanation: Pre-decrement decreases first, then prints.

14. Evaluate the expression:

```
int a = 2, b;
b = ++a + a++;
```

a) 5
b) 6
c) 7
d) 8

Answer: c) 7
Explanation:

Initially a = 2

++a → 3, a = 3

a++ → use 3, then a = 4
So b = 3 + 3 = 6 (Wait correction needed)

Let's compute carefully
 Correct step-by-step:
++a → a becomes 3, value = 3
a++ → value = 3, then a = 4
So b = 3 + 3 = 6

Answer: b) 6

15. What is the output?

```
int x = 5;
x = x >> 1;
```

```
printf("%d", x);
```

a) 10
b) 2
c) 4
d) 1

Answer: b) 2
Explanation: Right shift divides by 2 ⇒ 5 >> 1 = 2.