

1.

- a) `if (grade >= 90) System.out.println("Great job!")`
- b) `if (num < 20 || num > 50) System.out.println("Error")`
- c) `if (y < 100) y += 2`

2. `if (num1 > num2) System.out.println("First number is larger")`

`else if (num2 > num1) System.out.println("Second number is larger")`

`else System.out.println("Numbers are equal")`

3.

a) even odd

b) `switch(num % 2) { case 0: System.out.println("even number"); break; default: System.out.println("odd number"); }`

4.

a) `rand.nextInt(50) + 1`

b) `rand.nextInt(81) + 20`

c) `rand.nextDouble() * 10 + 10`

5. Error: `age == 18` not covered `age == 65` not covered

6.

a) true

b) false

c) true

d) true

e) true

f) true

g) true

7.

a) `Math.pow(y, x)`

b) `Math.abs(y)`

c) `Math.sqrt(y)`

8.

a) true

b) false integers compare exactly

c) false not same

d) false must be int char string enum

e) true

f) false same sequence

g) true

h) true

- i) false ! before &&
- j) true
- k) false needs Math.abs
- l) true