

Övning 3

1

a) $y = \text{Math.sin}(20 \cdot \text{Math.PI}/180);$

b) $z = a \cdot \text{Math.exp}(x) + b \cdot \text{Math.exp}(-\text{Math.cos}(x));$

c) $\text{hyp} = \text{Math.hypot}(a, b);$

2 $(\text{int}) \text{Math.round}(x)$

3

a) $n \% 2 == 0;$

$$836 / 100 = 8$$

b) $n \% 10 == 0;$

$$836 \% 100 = 36, 36 / 10 = 3$$

$$836 \% 10 = 6$$

c) $\text{digit 1} = \text{number} / 100;$

$$\text{digit 2} = (\text{number} \% 100) / 10;$$

$$\text{digit 3} = \text{number} \% 10;$$

4

a) $a > 2$ & & $a > 5$

$a > 5$

b) $a > 2$

c) $a < 2$

d) $a <= 2$ || $a >= 9$

e) $a >= 0$ && $a <= 10$

f) ready

g) !ready

5 Random rand = new Random();

int a = rand.nextInt(100) + 1

int b = rand.nextInt(100) + 1

while(a != b)

return (a > b) ? a : b

6

```
public class Temp {
```

```
    public static void main (String[] args) {
```

```
        Scanner scan = new Scanner (System.in);
```

```
        double sum;
```

```
        for (int i = 0; i < 30; i++) {
```

```
            sum = sum + scan.nextDouble();
```

```
        }
```

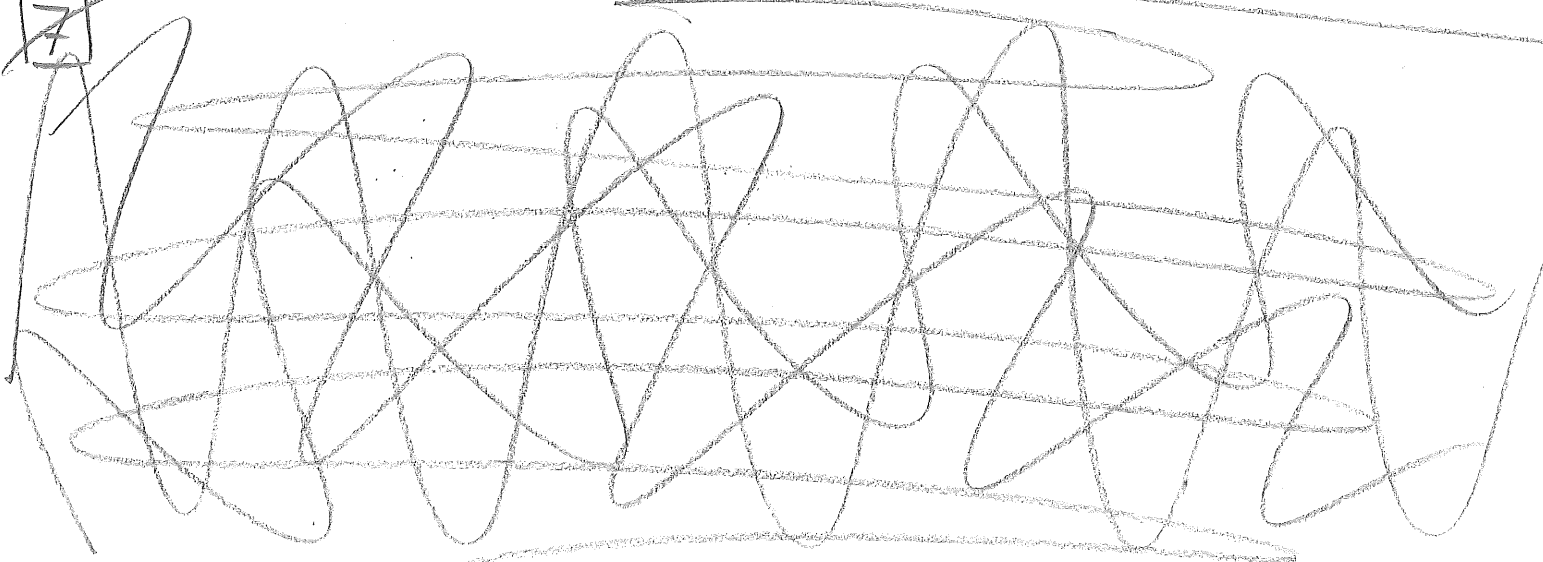
```
        double average = sum / 30;
```

```
        System.out.println (average);
```

```
    }
```

```
}
```

7



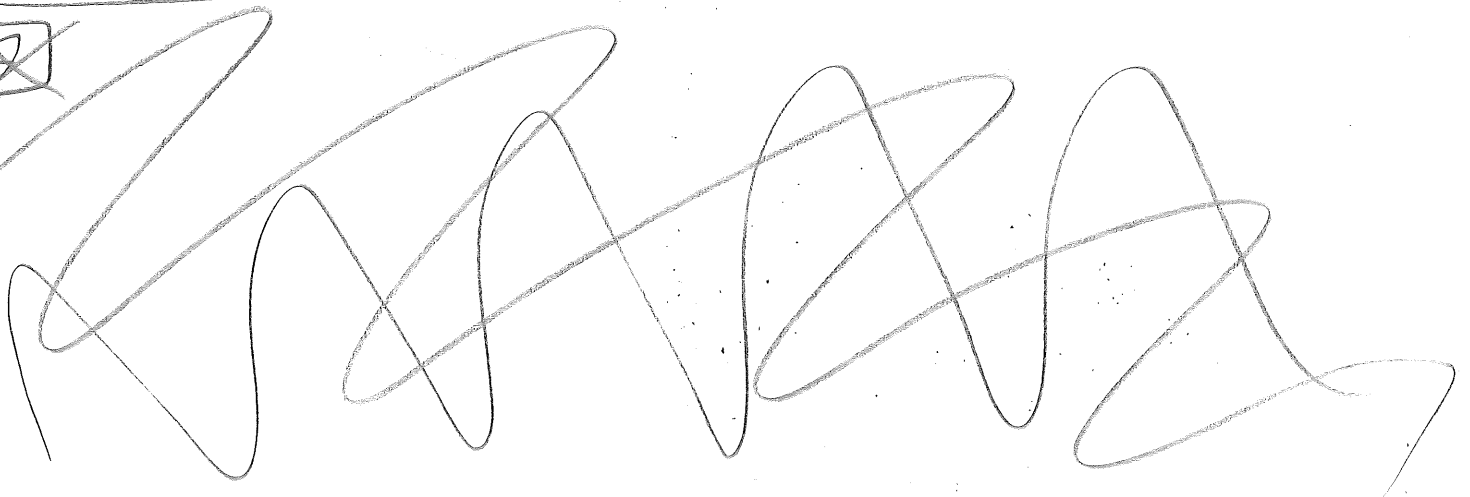
7

```
int minSum=0;
int maxSum=0;
Scanner scan=new Scanner(System.in);
limit = scan.nextInt();
for (int i=0; i<100; i++) {
    nbr = scan.nextInt()
    (limit > nbr)? maxSum+=nbr : minSum+=nbr
}
```

8

```
int salary=1;
int day=0;
while (salary < 1000000) {
    salary = 2 * salary;
    day++;
}
```

9



9

$$a_{k+1} = \begin{cases} a_k / 2 & \text{om } a_k \text{ är jämt} \\ 3a_k + 1 & \text{om } a_k \text{ ej är jämt} \end{cases}$$

```
public class Collatz {
```

```
    public static void main(String[] args) {
```

```
        Scanner scan = new Scanner(System.in);
```

```
        int a = scan.nextInt();
```

```
        int rounds = 0;
```

```
        while (a != 1) { System.out.println(a);
```

```
            if (a % 2 == 0) {
```

```
                a = a / 2;
```

```
            } else {
```

```
                a = 3 * a + 1;
```

```
            }
```

```
            rounds++;
```

```
        }
```

```
        System.out.println(rounds);
```

```
    }
```

```
}
```