2CPI (Lundi) **Nom:** **Prénom:**

POO: Contrôle continu N°1

Durée: 20 mn - Documents interdits

Question de cours (2pts)

1- Trouvez un terme (0.5 + 0.5)

1-1- Un objet d'une classe: **instance**

1-2- Le nom et les arguments d'une méthode: **signature**

2- Citez deux concepts de la POO (0.5 + 0.5)

Abstraction, polymorphisme, héritage, Encapsulation (2 de ces 4)

Exercice (v1) (8pts)

```
class A1 {
   protected static int x = 1;
   private int y = 2;
   public void affiche(){
      System.out.println("A: x=" + x + ", y=" + y);
   }
   public void set(int y){this.y = y;}
}

class B1 extends A1 {
   private int y = 3;  private float z = 4;
   public void affiche(){
      super.affiche();
      System.out.println("B: y=" + y + ", z=" + z);
   }
   public void set(float z) { this.z = z; }
}

public class V1 {
   static void set(int i) { i = 10 * A1.x; }
   static void set(A1 a, int i) { a.set(i); }
   static void set(float f, B1 a) { a.set(f); }

   public static void main(String[] args) {
      int i = 10; float f = 20;
      A1 a = new A1(); B1 b = new B1();
      b.affiche();
      A1.x = i; a.affiche();
      set(i); set(a, 4*i); a.affiche();
      set(b, 3*i); b.affiche();
      set(f, b); b.affiche();
   }
}
```

0.25 A: x=1, y=2 (0.5 + 0.5)
B: y=3, z=4.0 (0.5 + 0.5)

0.25 A: x=10, y=2 (0.75 + 0.25)

0.25 A: x=10, y=40 (0.25 + 0.75)

0.25 A: x=10, y=30 (0.25 + 0.5)
B: y=3, z=4.0 (0.5 + 0.25)

0.25 A: x=10, y=30 (0.25 + 0.25)
B: y=3, z=20.0 (0.25 + 0.5)

2CPI (Lundi) Nom: Prénom:

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Exercice (v2) (8pts)

```
class A2 {
   protected static int x = 1;
   private int y = 2;
   public void affiche(){
      System.out.println("A: x=" + x + ", y=" + y);
   }
   public void set(int y){this.y = y;}
}

class B2 extends A2 {
   private int y = 3;  private float z = 4;
   public void affiche(){
      super.affiche();
      System.out.println("B: y=" + y + ", z=" + z);
   }
   public void set(float z) { this.z = z; }
   public void set(int y){this.y = y;}
}

public class V2 {
   static void set(int i) { i = 5 * A2.x; }
   static void set(A2 a, int i) { a.set(i); }
   static void set(float f, B2 a) { a.set(f); }

   public static void main(String[] args) {
      int i = 5; float f = 7;
      A2 a = new A2(); B2 b = new B2();
      b.affiche();
      A2.x = i; a.affiche();
      set(i); set(a, 4*i); a.affiche();
      set(b, 3*i); b.affiche();
      set(f, b); b.affiche();
   }
}
```