# Ch 5 Review 2

Wednesday, January 16, 2013
9:34 AM

AP Computer Science — Chapter 5 Review Problem 2

```
public class Client {
      public static void main(String[] args) {
            // Set up variables
            Review r1 = new Review(5, 7);
            Review r2 = new Review(10, 12);
            Review r3 = null;
            Review r4 = r2;
            Review r5 = new Review(10, 12);
            Review r6 = new Review(10, 2);
            int x = 3;

            // Make some changes
            r6 = r5;
            r6.incrYby(4);
            r5.incrYby(2);

            // Pass stuff to a method
            mystery(r1, r2, x);
      }

      public static void mystery(Review a, Review b, int c) {
            a = b;
            c = 20;
            a.incrYby(3);
            b.incrYby(3);
      }
}
```

```
public class Review {
      private static int x;
      private int y;

      public Review(int x, int y) {
            // code missing
      }

      public void incrXby(int xInc) {
            x+=xInc;
      }

      public void incrYby(int yInc) {
            y+=yInc;
      }

      public int getX() {     return x;   }
      public int getY() {     return y;   }

      public int getSum() {
            return x + y;
      }

      public boolean equals(Review o) {
            if (x == o.getX() &&
                y == o.getY())
                  return true;
            else
                  return false;
      }

}
```

1. Fill in the missing constructor code for the Review class.
   this.x = x
   this.y = y
2. Examine the code, and use a separate sheet to draw a memory trace of the variables in the main() method. **Please note that one of the variables in the Review class is static, and the other is not. Objects do not store individual values for static variables.**
3. What would the value of these expressions be at the end of the main method.
   a. r1 == r2 — false
   b. r1 == r4 — false
   c. r2 == r4 — true
   d. r1.getX() + r1.getY() — 10 + 7 = 17

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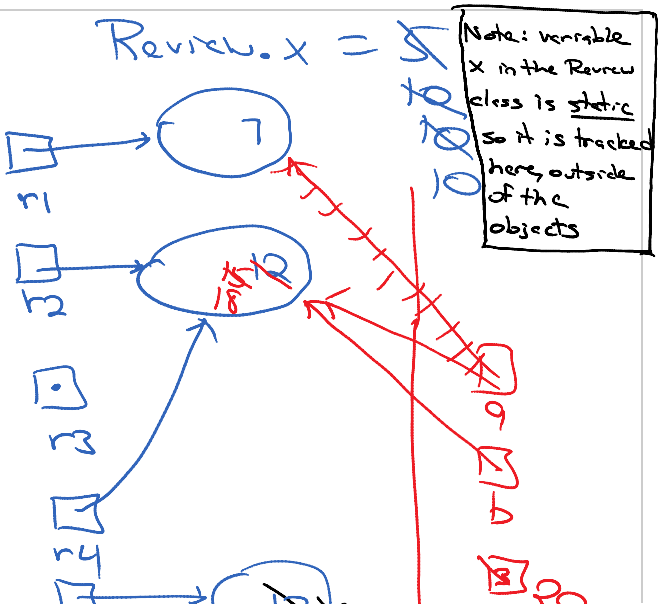
   e. r2 == r5 — false
   f. r2.equals(r5) — true
   g. r5.getSum() — 28
   h. r6.getSum() — 28
   i. r2.getX() — 10
   j. r2.getY() — 18
   k. x — 3

4. Write a snippet of code that would swap the values for r1 and r2.

```
Review t = r1;
r1 = r2;
r2 = t;
```

5. Which methods in the Review class could be made static?



r2 = t;

5. Which methods in the Review class could be made static?

Static methods cannot access (non-static) instance variables.

- incXby()
- getX()