```java
1   public class factorial
2   {
3       public static void main(String[] args)
4       {
5           System.out.println("1) " + prob1(10));
6           System.out.println("2) " + prob2(10));
7           System.out.println("3) " + prob3(10));
8           System.out.println("4) " + prob4(10));
9           System.out.println("5) " + prob5(10));
10          System.out.println("6) " + prob6(10));
11          System.out.println("7) " + prob7(10));
12          System.out.println("8) " + prob8(10));
13          System.out.println("9) " + prob9(10));
14          System.out.println("10) " + prob10(10));
15      }
16
17      public static int prob1(int n)
18      {
19          // when n = 1 return 6
20          // a(n) = a(n-1) + 200
21          if (n == 1)
22          {
23              return 6;
24          }
25          else
26          {
27              return prob1(n - 1) + 200;
28          }
29      }
30
31      public static int prob2(int n)
32      {
33          if (n == 1)
34          {
35              return 26;
36          }
37          else
38          {
39              return (2 + prob2(n - 1)) / 2;
40          }
41      }
42
43      public static int prob3(int n)
44      {
45          if (n == 1)
46          {
47              return -4;
48          }
49          else
```

```java
        {
            return prob3(n - 1) + 30;
        }
    }

    public static double prob4(int n)
    {
        if (n == 1)
        { return 0.5; }
        else
        { return (prob4(n - 1) * 2); }
    }

    public static int prob5(int n)
    {
        if (n == 1)
        { return 3; }
        else
        { return (prob5(n - 1) + n); }
    }

    public static int prob6(int n)
    {
        if (n == 1)
        { return -1; }
        else
        { return (prob6(n - 1) + n); }
    }

    public static int prob7(int n)
    {
        if (n == 1)
        { return -35; }
        else
        { return (prob7(n - 1) + 100); }
    }

    public static int prob8(int n)
    {
        if (n == 1)
        { return 3; }
        else
        { return (prob8(n - 1) * -4); }
    }

    public static int prob9(int n)
    {
        if (n == 1)
        { return 1; }
        else
        { return(n * prob9(n - 1)); }
    }
```

```java
public static int prob10(int n)
{
    if (n == 1)
    { return(5/3); }
    else
    { return(prob10(n - 1) * (1/2)); }
}
}
```

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