

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Student #: \_\_\_\_\_

## COMP3021: Java Programming In-class Exercise

Please rewrite the following program using inner class to reduce three top-level classes into 1 top-level class. You can only remove methods or fields. You cannot increase the visibility of any fields.

```
abstract class Square {
    protected int side;
    public double getArea(){
        return side*side;
    }
    public abstract void setSize(int s);
}

class RegularSquare extends Square{
    public void setSize(int s) {
        side = s;
    }
}

class Item {
    private double unitprice = 0;
    Square s; //not good.
    public void setUnitPrice(double p){
        unitprice = p;
    }
    public double getPrice(){
        return unitprice*s.getArea();
    }
}

public class Regular {
    public static void main(String[] args) {
        Square ss = new RegularSquare();
        Item item = new Item();
        item.s = ss;
        item.setUnitPrice(3.4);
        double m = item.getPrice();
    }
}
```

```

public abstract class Square {
    protected int side;
    public double getArea(){
        return side*side;
    }
    public abstract void setSize(int s);

    public class Item {
        double unitprice = 0;
        public void setUnitPrice(double p){
            unitprice = p;
        }
        public double getPrice(){
            return unitprice*getArea();
        }
    }
}

public static void main(String[] args) {
    Square ss = new Square(){

        @Override
        public void setSize(int s) {
            side = s;
        }
    };
    ss.setSize(10);
    Square.Item item= ss.new Item();
    item.setUnitPrice(3.4);
    double m = item.getPrice();
}
}

```