```
public class Area {

	static String[] types = { "t", "r", "s", "c"};

	public static void main(String[] args) {
		printArea("t", 5, 10);
		printArea("r", 5, 10);
		printArea("s", 5, 10);
		printArea("c", 5);
	}

	public static void printArea(String typeString, int... args) {
		int type = 0;
		for (int i = 0; i < types.length; i++) {
			if (typeString.equals(types[i])) {
				type = i;
			}
		}
		int height = 0;
		if (args.length > 0) {
			height = args[0];
		}
		int width = 0;
		switch (type) {
		case 0: // triangle
		case 1: // rectangle
		case 2: // square
			if (args.length > 1) {
				width = args[1];
			}
			break;
		case 3: // circle
			break;
		}
		double area = computeArea(type, height, width);
		printResults(type, area);

	}

	private static void printResults(int type, double area) {
		String label = "unknown";
		switch (type) {
		case 0: // triangle
			label = "triangle";
			break;
		case 1: // rectangle
			label = "rectangle";
			break;
		case 2: // square
			label = "square";
```

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            break;
        case 3: // circle
            label = "circle";
            break;
        }
        System.out.println("Area of the " + label + " is " + area);
    }

    private static double computeArea(int type, int height, int width) {
        double area = 0;
        switch (type) {
        case 0: // triangle
            area = height * width / 2.;
            break;
        case 1: // rectangle
        case 2: // square
            area = height * height;
            break;
        case 3: // circle
            area = height * height * Math.PI;
            break;
        }
        return area;
    }
}
```