

```
<?php
```

```
class Shape {
    protected $name;

    public function __construct($name) {
        $this->name = $name;
    }

    public function getName() {
        return $this->name;
    }

    public function calculateArea() {
        // Base class method, to be overridden by subclasses
        return 0;
    }
}
```

```
class Triangle extends Shape {
    private $base;
    private $height;

    public function __construct($base, $height) {
        parent::__construct("Triangle");
        $this->base = $base;
        $this->height = $height;
    }

    public function calculateArea() {
        return 0.5 * $this->base * $this->height;
    }
}
```

```
class Square extends Shape {
    private $side;

    public function __construct($side) {
        parent::__construct("Square");
        $this->side = $side;
    }

    public function calculateArea() {
        return $this->side * $this->side;
    }
}
```

```
}  
}
```

```
class Circle extends Shape {  
    private $radius;  
  
    public function __construct($radius) {  
        parent::__construct("Circle");  
        $this->radius = $radius;  
    }  
  
    public function calculateArea() {  
        return M_PI * $this->radius * $this->radius;  
    }  
}
```

```
if (isset($_POST['shape'])) {  
    $selectedShape = $_POST['shape'];  
  
    switch ($selectedShape) {  
        case 'triangle':  
            $triangle = new Triangle(10, 5);  
            echo "Area of " . $triangle->getName() . ": " . $triangle->calculateArea();  
            break;  
  
        case 'square':  
            $square = new Square(8);  
            echo "Area of " . $square->getName() . ": " . $square->calculateArea();  
            break;  
  
        case 'circle':  
            $circle = new Circle(4);  
            echo "Area of " . $circle->getName() . ": " . $circle->calculateArea();  
            break;  
  
        default:  
            echo "Please select a shape.";  
            break;  
    }  
}
```

```
?>
```

```
<!DOCTYPE html>
```

```
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Shape Area Calculator</title>
</head>
<body>

<form method="post" action="">
  <h3>Select a shape:</h3>
  <input type="radio" name="shape" value="triangle"> Triangle
  <input type="radio" name="shape" value="square"> Square
  <input type="radio" name="shape" value="circle"> Circle
  <br><br>
  <input type="submit" value="Calculate Area">
</form>

</body>
</html>
```