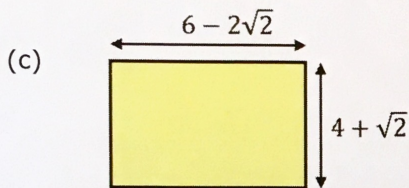
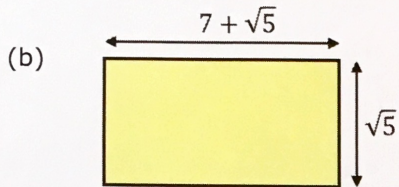
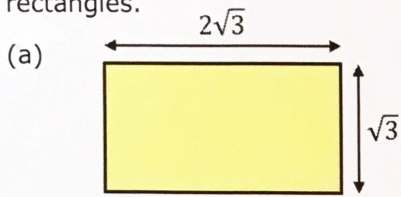


### Problem Solving with Surds

Find the area and perimeter of these rectangles.

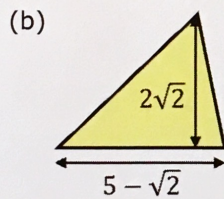
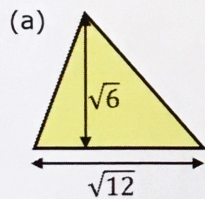


(a) Area = 6  
Perimeter =  $6\sqrt{3}$

(b) Area =  $7\sqrt{5} + 5$   
Perimeter =  $14 + 4\sqrt{5}$

(c) Area =  $20 - 2\sqrt{2}$   
Perimeter =  $20 - 2\sqrt{2}$

Find the area of these triangles.



(a)  $3\sqrt{2}$

(b)  $5\sqrt{2} - 2$

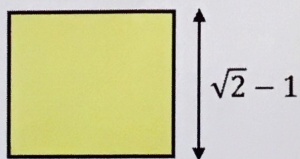
(a) Given that  $(3 + \sqrt{a})(4 + \sqrt{a}) = 17 + b\sqrt{a}$  find the values of  $a$  and  $b$ .

(b) Given that  $(5 - \sqrt{x})^2 = y - 20\sqrt{2}$  find the values of  $x$  and  $y$ .

(a)  $a = 5$   $b = 7$

(b)  $x = 8$   $y = 33$

(a) The perimeter of this rectangle is  $8\sqrt{2}$ . Find the area of the rectangle.



(a) Length =  $3\sqrt{2} - 1$   
Area =  $7 - 4\sqrt{2}$