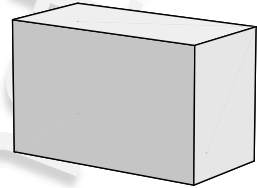


- 6 A number p is 3 more than the number n .
- (a) Write down an expression for p in terms of n .
- The product of n , p and a third number is 89.
- (b) Write down, in terms of n , an expression for the third number.

- 7 The diagram shows a solid cuboid with breadth b . The length of the cuboid is twice the breadth.

- (a) Write down an expression for the length of the cuboid in terms of b .
- (b) Write down an expression, in terms of b , for the area of the top face of the cuboid.



The volume of the cuboid is 10.

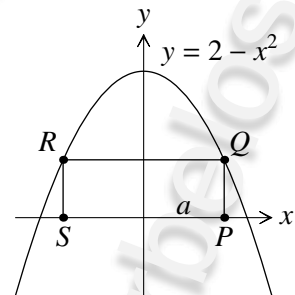
- (c) Find an expression, in terms of b , for the height of the cuboid.
- (d) Find an expression for the surface area of the cuboid in terms of b .

- 8 A piece of wire of length 60 cm is cut into two parts. One part is bent to form a square of side w cm and the other part is bent to form a rectangle of width w cm. Find an expression for the length of the rectangle in terms of w .

- 9 The diagram shows the curve with equation $y = 2 - x^2$ and the rectangle $PQRS$, where P , S are on the x -axis and Q , R are on the curve.

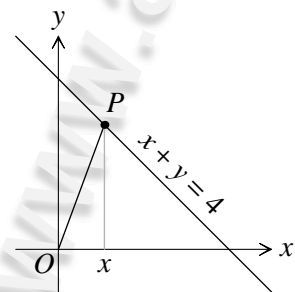
The point P has coordinates $(a, 0)$.

- (a) Find an expression, in terms of a , for the height of the rectangle $PQRS$.
- (b) Find an expression, in terms of a , for the area of the rectangle $PQRS$.



- 10 The diagram shows the point $P(x, 4 - x)$ on the line with equation $x + y = 4$.

Find an expression for the length of the line segment OP in terms of x .



- 11 A rectangular sheet of paper measuring $30\text{ cm} \times 24\text{ cm}$ has four squares cut from the corners, as shown. Each square has sides of length x cm. The resulting shape is then folded to form an open cuboid.