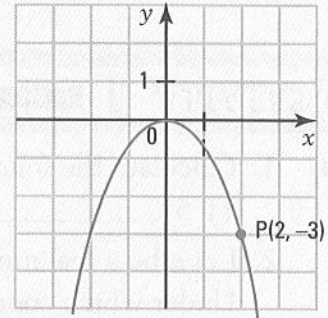


FINDING THE RULE $y = ax^2$

We find the value of parameter a by replacing, in the rule, x and y by the coordinates of the given point P.

$$-3 = a(2)^2 \Rightarrow -3 = 4a \Rightarrow a = -\frac{3}{4}$$

We deduce the rule: $y = -\frac{3}{4}x^2$.



10. Find the equation of the parabola with vertex $V(0,0)$ and passing through the given point P.

a) $P(1, 2)$ _____ b) $P(-2, -12)$ _____

c) $P(-3, 6)$ _____ d) $P(2, -6)$ _____

11. The table of values on the right associates the time t (in s) elapsed since a free-falling object was dropped with the distance d (in m) traveled by the object, rounded to the nearest unit.

$t(s)$	0	1	2
$d(m)$	0	5	20

a) Find the rule of the function which associates the time elapsed t with the distanced traveled, knowing that the distance traveled is directly proportional to the square of the elapsed time.

b) Find the rule of the inverse function which associates the distance d traveled with the elapsed time t . _____

c) Determine

1. the distance traveled by the object 4 seconds after it was dropped. _____

2. the time required for the object to travel a distance of 180 m. _____

12. Consider the table of values on the right. Find the rule of the function if

x	0	2
y	0	4

a) y is directly proportional to x . _____

b) y is directly proportional to the square of x . _____