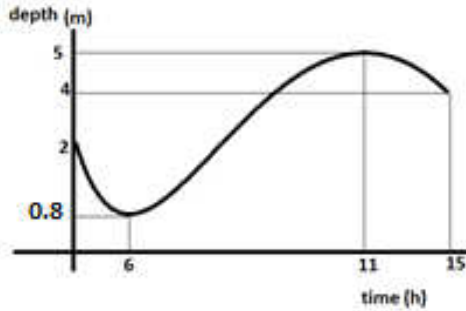


THE LEAKY POOL

The graph shows that the water level, or depth, changes over a 15-hour time period: the *domain* is $0 \leq t \leq 15$
Match the situation with its mathematical description (using connection arrow)



At the beginning, when no time has passed, $t = 0$, and the water in the pool is 2 metre deep, so $d = 2$. During the first 6-hour interval ($0 \leq t \leq 6$), the water level drops. The leak seems to get worse as time passes.	The function is decreasing over the interval $11 \leq t \leq 15$
When $t = 6$ and $d = 0.8$, it seems that someone starts to refill the pool.	The point $(0; 2)$ is the intercept of the function with the y-axis.
The water level rises for the next 5 hours, during the interval $6 \leq t \leq 11$.	The function is decreasing over the interval $0 \leq t \leq 6$.
At $t = 11$, the water reaches its highest level at just about 5 metres, so $d = 5$.	The function has a minimum at $(6; 0,8)$
At the 11-hour mark, the following water is apparently turned off because, since the pool still has a leak, the water level starts to drop again.	The function is increasing over the interval $6 \leq t \leq 11$.
	The function has a maximum at $(11; 5)$

Production exercise

- 1) Graph a function with the following properties:
 - The domain will be $-15 \leq x \leq 15$
 - $F(x)$ is increasing in $-15 \leq x \leq -10$
 - $F(x)$ has a maximum at $(-10; 0)$
 - $F(x)$ intercepts with the y-axis at $(0; -3)$
 - $F(x)$ is even.

- 2) Describe the properties of the following function

