

halloween2

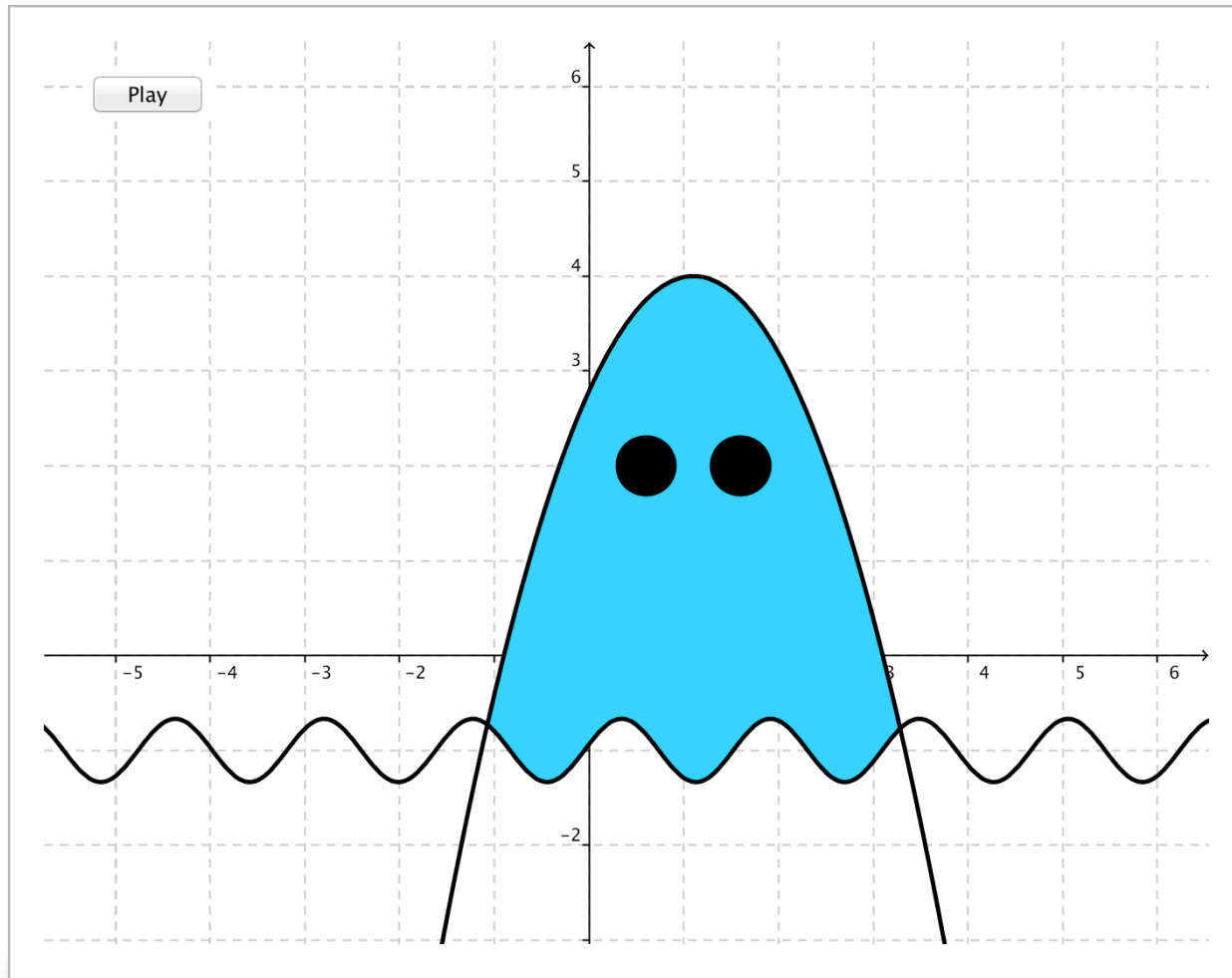


<http://www.geogebra.org/material/show/id/19246>

Parameters: a, b

The Graphs: $f(x) = 4 - (x - a)^2$ and $g(x) = \sin(4x + b) / 3 - 1$

Circles: $(x - a - 0.5)^2 + (y - 2)^2 = 0.1$, $(x - a + 0.5)^2 + (y - 2)^2 = 0.1$



Points A and B are the intersections defined as

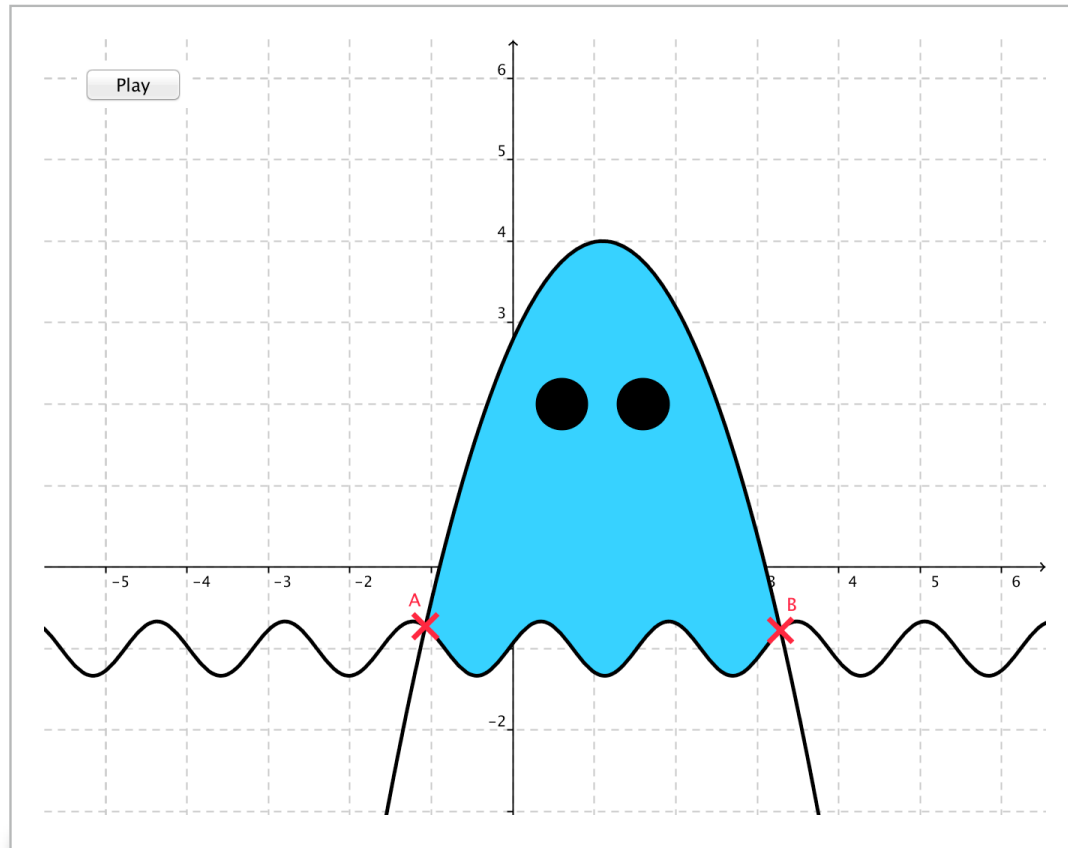
```
Intersect[f, g, a - 9, a]
```

and

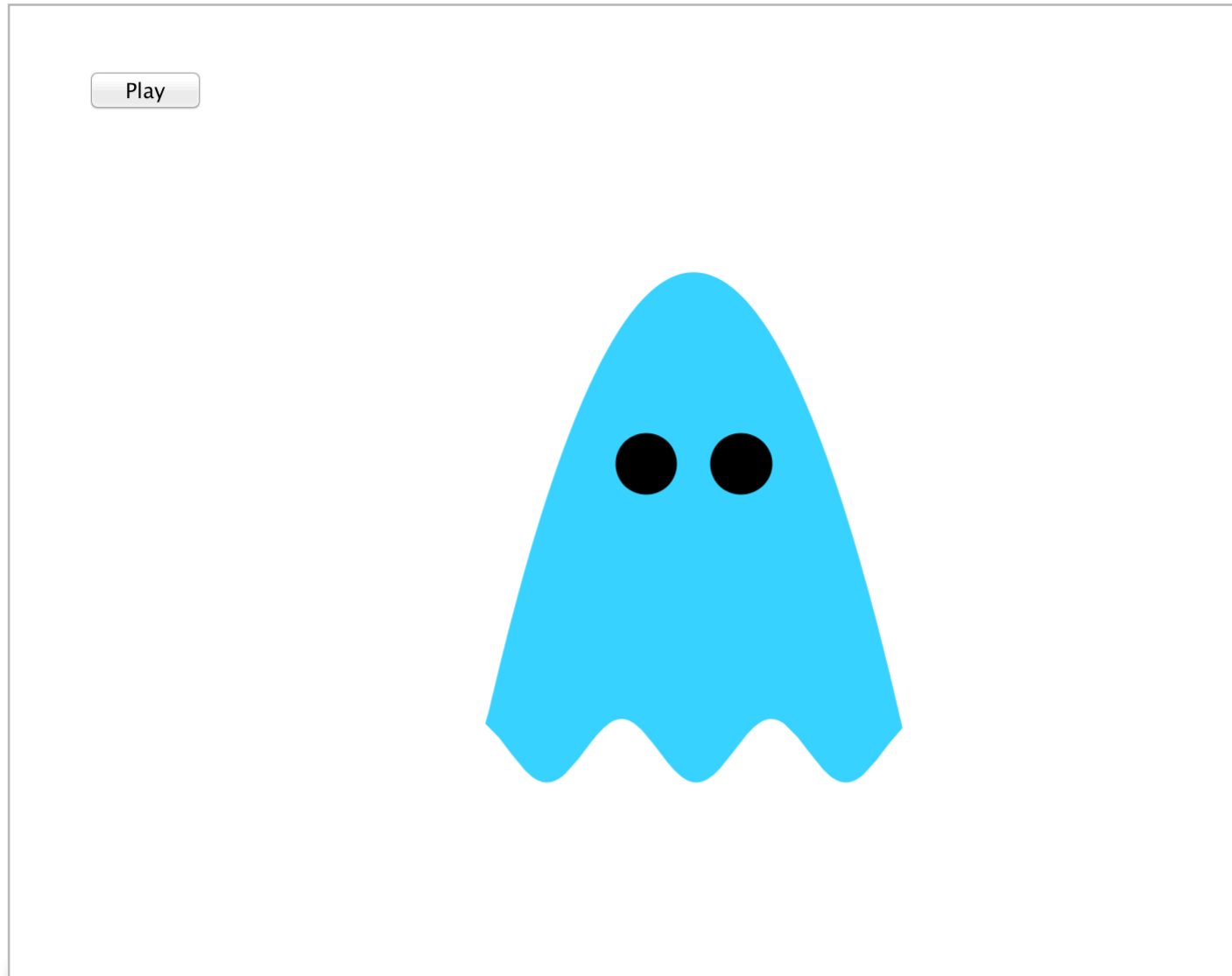
```
Intersect[f, g, a, a + 9]
```

Create and display the integral as area between the 2 graphs:

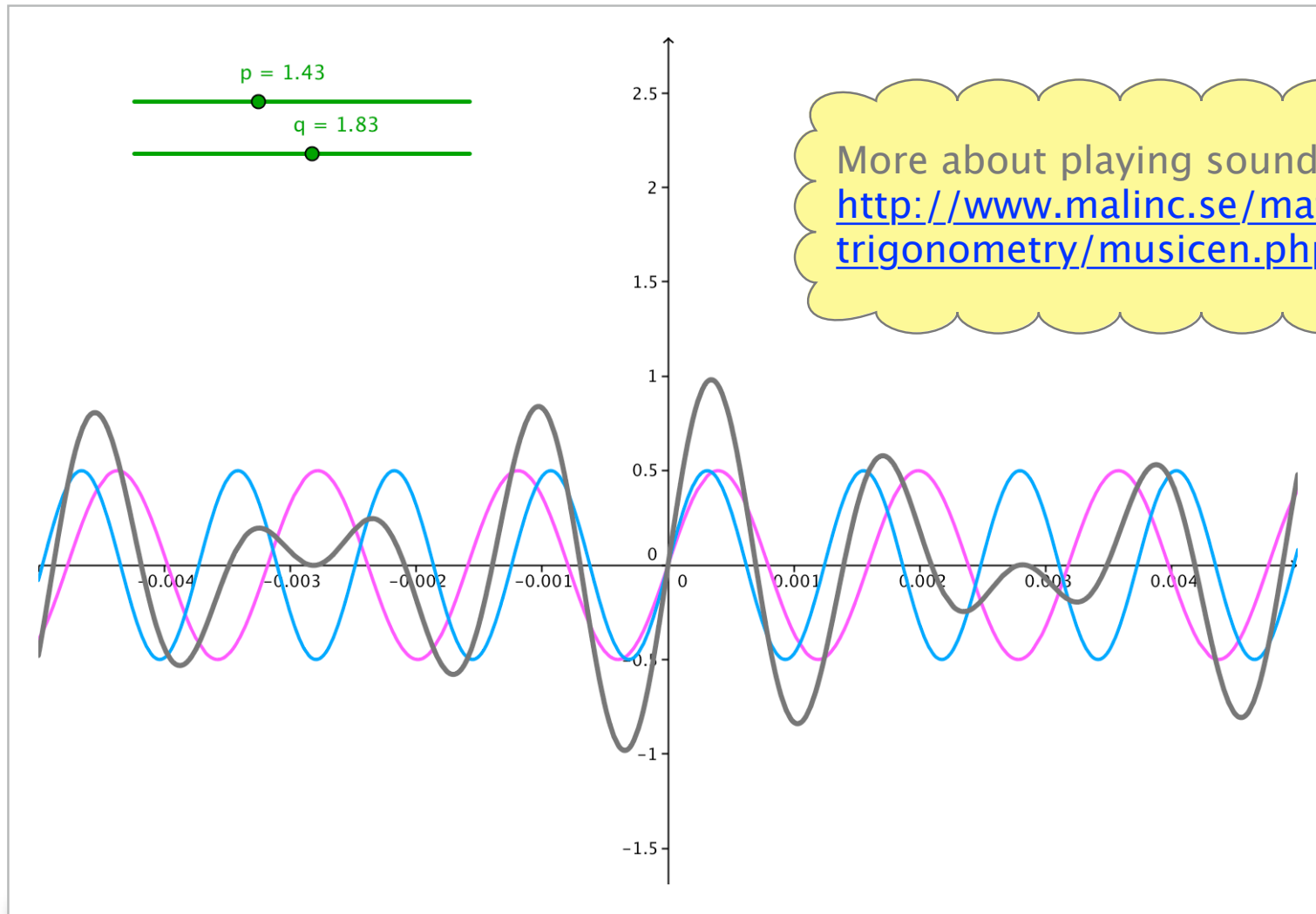
```
IntegralBetween[f, g, x(A), x(B), true]
```



Change the colour, then 'animate' parameters a and b.



Input sine functions in another graphic window with parameters p and q, to be played as sound. 'Animate' p, q while playing the sound.



$$s(x) = s_1(x) + \quad \text{while} \quad s_1(x) = 0.5\sin(p \ 440 \ (2) \ \pi) \quad \text{and} \quad s_2(x) = 0.5\sin(q \ 440 \ (2) \ \pi)$$