Given $f(x)=7-x^2$, find the equation of the tangent line at (2,3).

1) Find f'(x) by using the power rule: $f'(x)=\frac{d}{dx}\left(7-x^2\right)=-2x$

2) Evaluate f'(x) at 2 to get the slope there: f'(2)=-2(2)=-4

3) Write the equation of the tangent line as shown below.

y-3=-4(x-2)	Setup the equation
y-3=-4x+8	Distribute the -4
y=-4x+8+3	Add 3 to both sides
y=-4x+11	

4) Below is a picture of the curve, and the tangent at the point (2,3).