The line ***y = kx + 20*** is a tangent to the curve ***f*** where ***f(x) = 12 -2x -2x²***
Find the values of ***k***.

$$kx + 20 = 12 - 2x - 2x^2$$

$$2x^2 + kx + 2x + 8 = 0$$
$$2x^2 + (k+2)x + 8 = 0$$

$$\Delta = b^2 - 4ac$$
$$\Delta = (k+2)^2 - 4 \times 2 \times 8$$
$$\Delta = (k+2)^2 - 64$$
$$\Delta = k^2 + 4k + 4 - 64$$
$$\Delta = k^2 + 4k - 60$$

$$\Delta = 0$$
$$k^2 + 4k - 60 = 0$$
$$(k-6)(k+10) = 0$$
$$k = 6, \quad k = -10$$