

58. $kx^2 = -2x + 3$ Equate functions.

$2kx = -2$ Equate derivatives.

So, $k = -\frac{2}{2x} = -\frac{1}{x}$, and

$$\left(-\frac{1}{x}\right)x^2 = -2x + 3 \Rightarrow -x = -2x + 3 \Rightarrow x = 3 \Rightarrow k = -\frac{1}{3}.$$