not correct. +2EC

#3: A company makes square crackers from sheets of cooked cracker stuff. It wants to keep the side length of a cracker very close to 5 cm and it wants to know how the Area $A(x)$ of the cracker changes when the side length x changes. Find $\frac{d}{dx}A\Big|_{x=6}$, it's units, and explain it's meaning in this situation

what we know:

$A(x) = x^2$

no derivative

$\boxed{A(x)}\ \frac{d}{dx}(x^2)\cdot\frac{dA}{dx}$

maybe meant

$$\frac{dA}{dx} = \frac{d}{dx}(x^2) = 2x$$

b/c $A(x) = x^2$

what we need to find:

$$\frac{dA}{dx}\Big|_{x=6}$$

not $\frac{dA}{dx}\Big|_{x=6} = 2x\Big|_{x=6}$

$= 2\cdot 6$

$= 12\ \frac{cm^2}{cm}$

so...

Area rate Area is changing

$x^2 = 2x\cdot\frac{dA}{dx}$

doesn't make sense

at $x = 5$	at $x = 6$
$\cancel{25} = 2\cdot 5\cdot\frac{dA}{dx}$	$36 = 2\cdot 6\cdot\frac{dA}{dx}$
$25 = 10\cdot\frac{dA}{dx}$	$36 = 12\cdot\frac{dA}{dx}$
$\frac{25}{10} = \frac{dA}{dx}$	$\frac{36}{12} = \frac{dA}{dx}$
$\frac{dA}{dx}\Big\vert_{x=5} = \frac{5}{2}\ cm^2/s$	$\boxed{\frac{dA}{dx}\Big\vert_{x=6} = 3\ cm^2/s}$

where did time come from? was + distance

The rate of change of the Area when the side length is equal to 6 is 3 cm² per second.

The rate of change has increased from when the side length was 5 cm, which had a rate of $\frac{5}{2}$ cm² per second to 3 cm² per second with a side length of 6 cm.