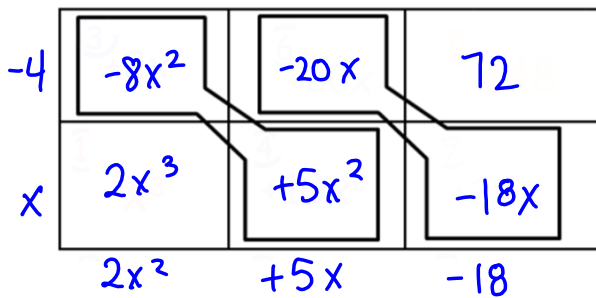


Is $(4,0)$ a root of $f(x) = 2x^3 - 3x^2 - 38x + 72$? **warm-up** **yes**

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If so, write it in fully factored form.



$$f(4) = 2(4)^3 - 3(4)^2 - 38(4) + 72$$

$$f(4) = 0$$

$$f(x) = (x-4)(2x^2 + 5x - 18)$$

-2	$-4x$	-18
x	$2x^2$	$9x$
	$(2x+9)$	

met. →

~~$-36x^2$~~

~~$9x$~~ ~~$-4x$~~

~~$5x$~~

$$f(x) = (x-4)(x-2)(2x+9)$$

$$\text{Roots: } (4,0) (2,0) \left(-\frac{9}{2}, 0\right)$$

Zero Product Property

$$2x+9=0$$

$$2x=-9$$

$$x=-\frac{9}{2}$$