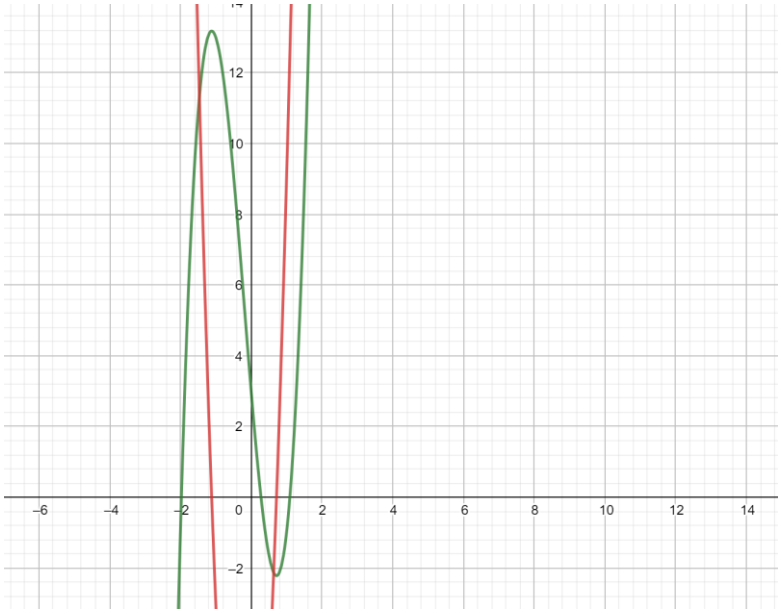
	Navn:		Skole:	
	Klasse: 20		Dato: 15. marts 2022	Fag: Matematik A

Opgave 314

Opagve a

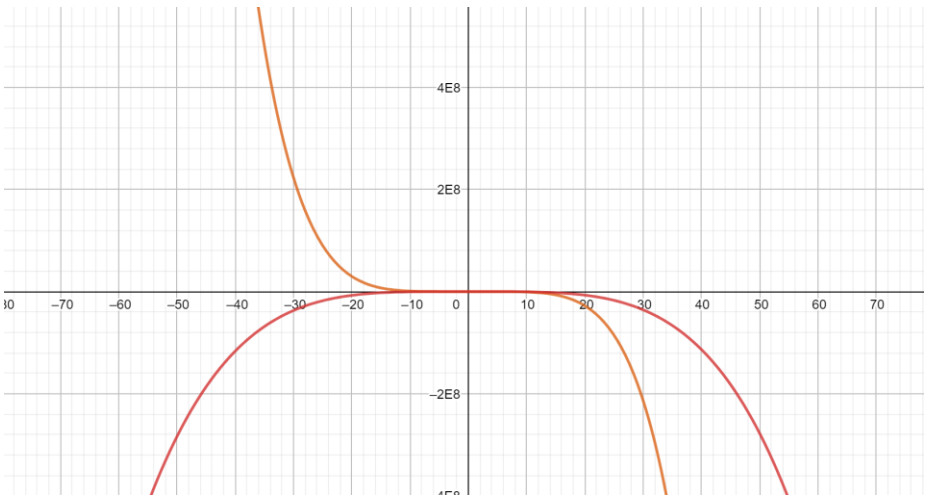
$$f(x) = 5x^3 + 3x^2 - 12x + 3$$

$$f'(x) = 15x^2 + 6x - 12$$



Opgave b

$$f(x) = (3x^4 + x^2 - 3) \cdot (2 - 3x)$$
$$f(x) = 6x^4 + 2x^2 - 6 - 9x^5 - 3x^3 + 9x$$
$$f(x) = -9x^5 + 6x^4 - 3x^3 + 2x^2 + 9x - 6$$
$$f'(x) = -45x^4 + 24x^3 - 9x^2 + 4x + 9$$



	Navn:		Skole:	
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Opgave c

$$f(x) = \frac{2x^2 + x - 1}{x + 2}$$

$$u(x) = 2x^2 + x - 1$$
$$u'(x) = 4x + 1$$

$$v(x) = x + 2$$
$$v'(x) = 1$$

$$f'(x) = \frac{u'(x) \cdot v(x) - u(x) \cdot v'(x)}{v(x)^2}$$

$$f'(x) = \frac{(4x + 1) \cdot (x + 2) - (2x^2 + x - 1) \cdot (1)}{(x + 2)^2} \quad Indsæt\ tal$$

$$f'(x) = \frac{4x^2 + x + 8x + 2 - (2x^2 + x - 1)}{x^2 + 4x + 4} \quad Gang\ parenteser$$

$$f'(x) = \frac{4x^2 + x + 8x + 2 - 2x^2 - x + 1}{x^2 + 4x + 4} \quad Skift\ forteng\ i\ anden\ parentes$$

$$f'(x) = \frac{2x^2 + 8x + 3}{x^2 + 4x + 4} \quad Reducer$$