6.44

måndag 19 december 2022 19:11

$$x^2 - x - 20$$
$$x^3 - 2x^2 - 19x + \alpha \;\big|\; x - 1$$
$$-(x^3 - x^2)$$
$$-x^2 - 19x + \alpha$$
$$-(-x^2 + x)$$
$$-20x + \alpha$$
$$-(-20x + 20)$$
$$0$$

$\alpha = 20$

$$x^3 - 2x^2 - 19x + 20 = (x-1)(x^2 - x - 20)$$

$$x = 1/2 \pm \sqrt{\frac{1}{4} + 20} = \frac{1}{2} \pm \sqrt{\frac{81}{4}} = \frac{1}{2} \pm \frac{9}{2}$$

$x_1 = 5 \quad x_2 = -4$

$\alpha = 20$

Sv: $(x-1)(x-5)(x+4) = x^3 - 2x^2 - 19x + 20 = p(x)$