

5pts

①

$$P(x) = x^3 + 6x^2 - 9x - 54$$

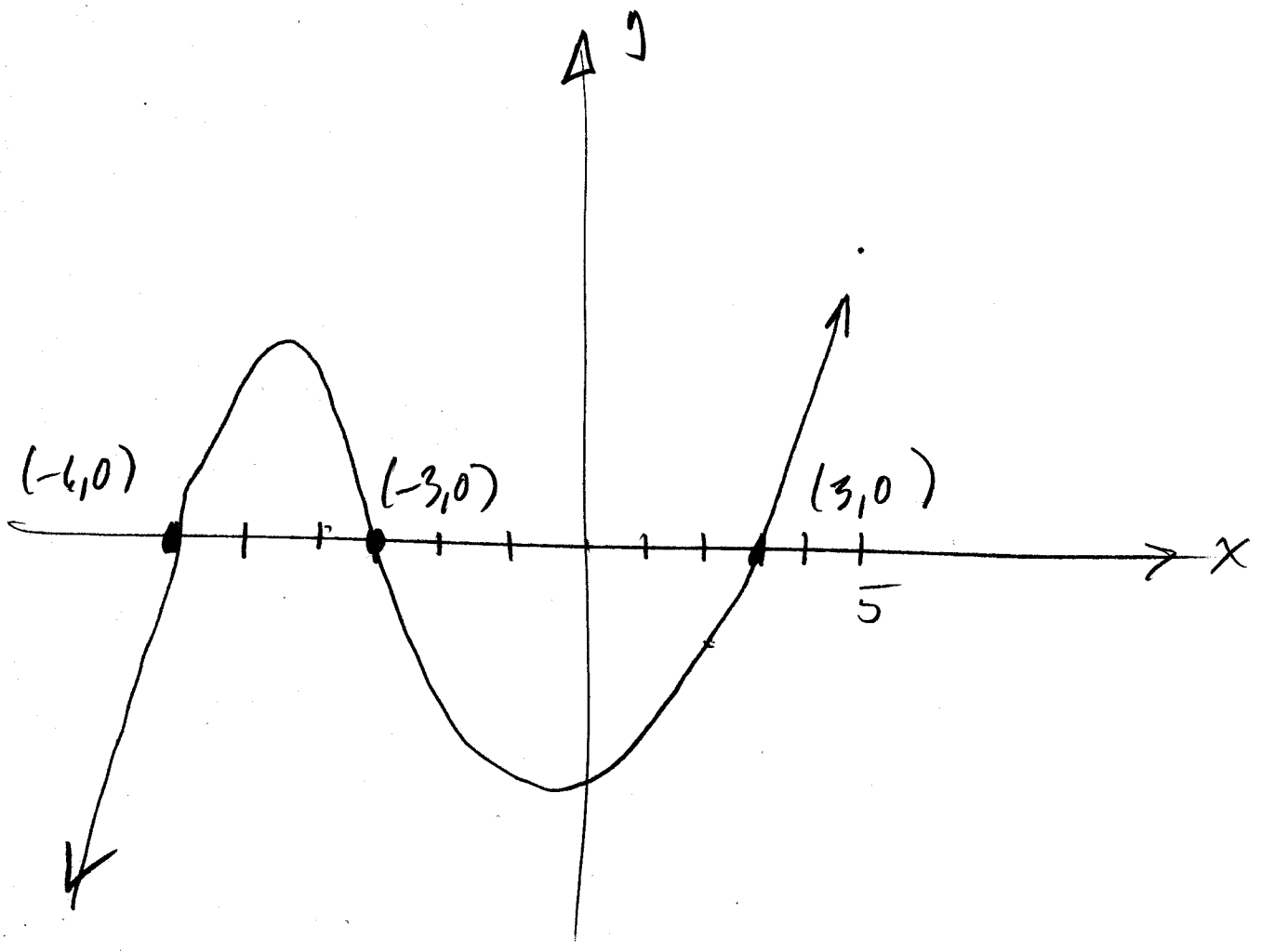
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15

$$P(x) = x^2(x+6) - 9(x+6)$$

$$P(x) = (x^2 - 9)(x+6)$$

$$P(x) = (x+3)(x-3)(x+6)$$

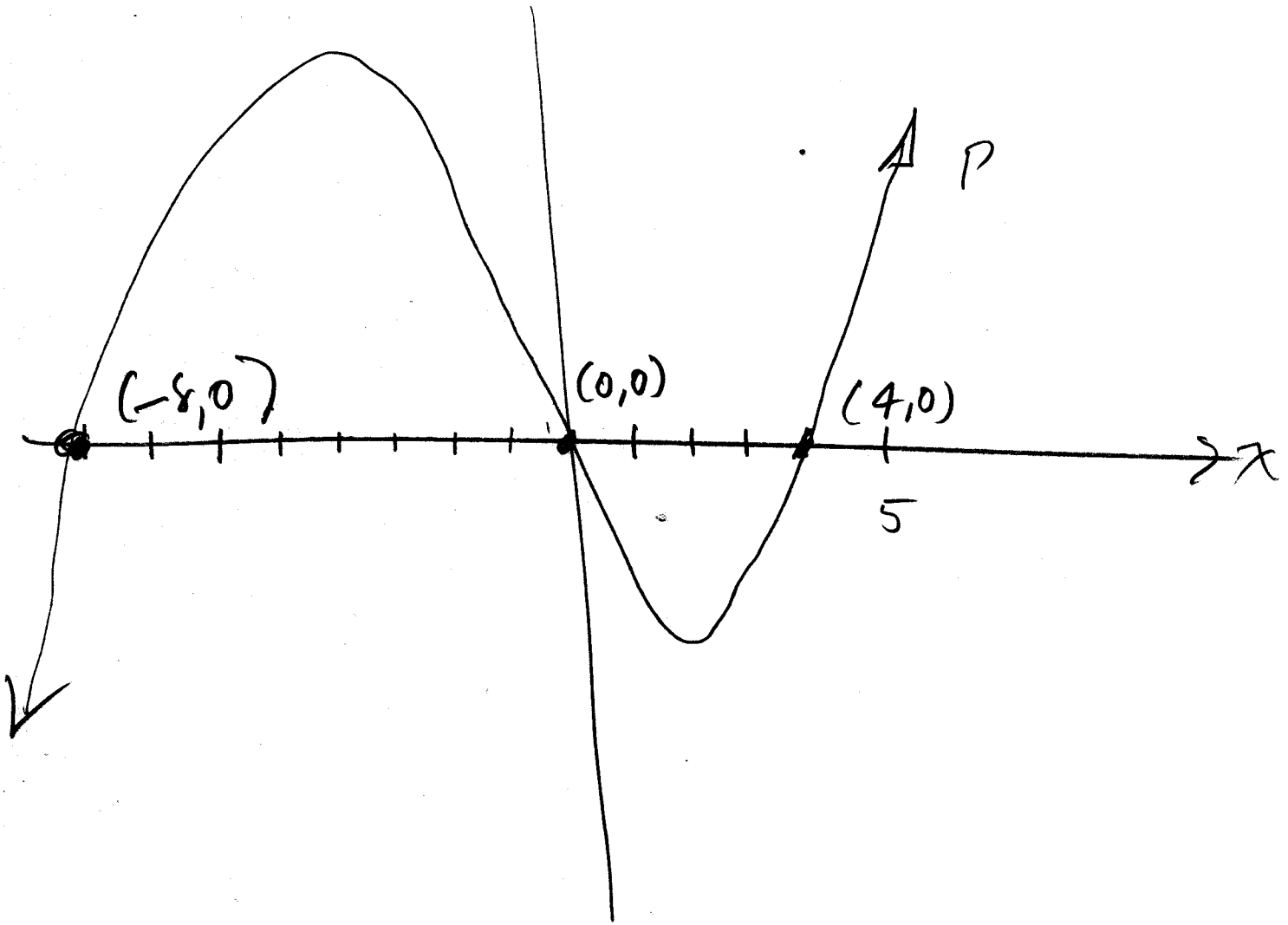


5pts
②

$$\begin{aligned} p(x) &= 2x^3 + 8x^2 - 64x \\ &= 2x(x^2 + 4x - 32) \\ &= 2x(x+8)(x-4) \end{aligned}$$

$$\begin{aligned} ac &= 32 \\ &= 8 \cdot 4 \end{aligned}$$

Zeros: 0, -8, 4



5pts

③

$$P(x) = -2x^3 + 18x^2 + 20x$$

