



Practice

het $y = x^3 - x^2 + x - 5$

Give a description of this function after:

- (A)
- ① Translation 4 units up
 - ② Translation 1 unit to the left
 - ③ Reflection in the y axis
 - ④ Vertical dilation with factor 0.5
 - ⑤ Reflection in the x-axis
 - ⑥ Horizontal dilation with factor 0.5

Describe the transformations for:

- (B)
- ① $y = x^2 - x \longrightarrow y = (x+2)^2 - (x+2)$
 - ② $y = -x^3 + 2x^2 - 3 \longrightarrow y = 5(-x^3 + 2x^2 - 3)$
 - ③ $y = 4x + 9 \longrightarrow y = -4x - 9$
 - ④ $y = x^2 + 3 \longrightarrow y = x^2 - \frac{1}{2}$
 - ⑤ $y = (x-1)^4 + (x-1)^2 \longrightarrow y = x^4 + x^2$
 - ⑥ $y = -\frac{1}{3}x^2 + 5x - 2 \longrightarrow y = -\frac{1}{3}(2x)^2 + 5(2x) - 2$