

#17 - mistake in video

$$\textcircled{\#5} \sum_{i=1}^5 (i+1)(2i-3)$$

$$\sum_{i=1}^5 (2i^2 - i - 3) = 2 \cdot 1^2 - 1 - 3 + 2 \cdot 2^2 - 2 - 3 +$$
$$i=1 \quad 2 \cdot 3^2 - 3 - 3 + 2 \cdot 4^2 - \underline{4} - 3 + 2 \cdot 5^2 - 5 - 3$$

$$= 2 - 1 - 3 + 8 - 2 - 3 + 18 - 3 - 3 + 32 - 7 + 50 - 8$$

$$= -12 + 1 + 6 + 18 + 82 - 15$$

80

#17 $\sum_{i=1}^{10} (i^3 + 2i^2 - 5i + 3)$

$$\sum_{i=1}^{10} i^3 + 2 \sum_{i=1}^{10} i^2 - 5 \sum_{i=1}^{10} i + \sum_{i=1}^{10} 3$$

$n=10$

$$\frac{10^2(11)^2}{4} + 2 \cdot \frac{10 \cdot 11 \cdot 21}{6} - 5 \cdot \frac{16 \cdot 11}{2} + 3 \cdot 10$$

$$\frac{100 \cdot 121}{4} + 770 - 275 + 30$$

3550

① Find the sum by writing out terms + then using a calc.

$$\sum_{i=1}^7 \frac{i}{i+1}$$

② Use formulas + calc:

$$\sum_{i=1}^{30} (2i^3 - i)$$

~ Watch video for hw ~