

Sums

1. Write out the following sum:

$$\sum_{n=1}^6 (n+1)(n+2)$$

2. Write out the following sum:

$$\sum_{m=2}^4 \frac{m^2}{1-m}.$$

Limits

3. $\lim_{x \rightarrow \infty} 4 - \frac{1}{x}$

4. $\lim_{h \rightarrow 0} \frac{4h - 4h^2}{h}$

5. $\lim_{h \rightarrow 0} \frac{147h + 21h^2 + h^3}{h}$

Average Speed

6. Find the average speed of a race car over the time period from 2 seconds to 3 seconds if $f(t) = t^3$ is the distance from the starting line t seconds after the start.