Sums

1. Write out the following sum:

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

$$\boxed{2{\cdot}3+3\cdot 4+4\cdot 5+5\cdot 6+6\cdot 7+7\cdot 8}$$

2. Write out the following sum:

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

$$\frac{2^2}{-1}+\frac{3^2}{-2}+\frac{4^2}{-3}$$

Limits

3. $\lim_{x\to\infty} 4-\frac{1}{x} = \boxed{4}$
4. $\lim_{h\to 0} \frac{4h-4h^2}{h} = \boxed{4}$
5. $\lim_{h\to 0} \frac{147h+21h^2+h^3}{h} = \boxed{147}$

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.

$\frac{27-8}{1}=\boxed{19}$