

Simplify each of the following.

1. $\frac{5!}{3!}$

2. $\frac{27!}{30!}$

3. $\frac{x!}{(x-2)!}$

4. $\frac{(x+3)!}{(x-2)!}$

5. $\frac{n!m!}{(n-1)!(m-1)!}$

6. $\frac{(n+2)!(m-3)!}{(n+3)!(m+1)!}$