

Name: _____

Factorial**Exercise 1:** Evaluate

1) $\frac{4!}{1!}$

2) $\frac{24!}{20!}$

3) $\frac{8!}{3!}$

4) $\frac{11!}{6!}$

5) $\frac{125!}{115!}$

6) $\frac{9987!}{9823!}$

7) $\frac{45234!}{45220!}$

Exercise 2: Simplify each of the following expressions

1) $\frac{(r-6)!}{(r-9)!}$

2) $\frac{(m)!}{(m-1)!}$

3) $\frac{(n)!}{(n-2)!}$

4) $\frac{(2n-1)!}{(2n-3)!}$

5) $\frac{(t-3)!}{t(t-2)!}$

6) $\frac{(a-b)!}{(a-b-1)!}$

7) $\frac{(3s)!}{(3s-3)!}$

8) $\frac{w!(w-3)!}{(w-1)!(w-5)!}$

9) $\frac{(y+2)!}{(y+1)!}$

10) $\frac{(2z+6)!}{(2z+1)!}$

Exercise 3: Simplify and find the value of $\frac{11!-9!}{10!}$ **Exercise 4:** Evaluate $\frac{16!-15!}{14!+13!}$ **Exercise 5:** Simplify $\frac{n!+(n+1)!}{(n+2)!}$