Calculating a Permuation

In mathematics, to calculate the permutation of n things taken r at a time, we use the formula

$_nP_r = \dfrac{n!}{(n-r)!}$. The TI-83/84 has this formula already built in.

To calculate $_{10}P_7 = \dfrac{10!}{(10-7)!}$, on the home screen first press **10**, then press the **MATH** key. Next press the **RIGHT ARROW** key three times so that **PRB** is highlighted. Press **2** to select the permuation formula. Next type **7** and press **ENTER**. The results are shown below.

```
10█
```

```
MATH  NUM  CPX  PRB
1█▶Frac
2:▶Dec
3:³
4:³√(
5:ˣ√
6:fMin(
7↓fMax(
```

```
MATH  NUM  CPX  PRB
1█rand
2:nPr
3:nCr
4:!
5:randInt(
6:randNorm(
7:randBin(
```

```
10 nPr
```

```
10 nPr 7
```

```
10 nPr 7
              604800
```