

Chapter 1 / **Example 43****Calculating values using factorials**

Find the value of these expressions:

**a**  $\frac{7!}{5!}$

**b**  $\frac{3!}{5!}$

**c**  $\frac{8! \times 4!}{10!}$

**d**  $\frac{7! \times 5!}{10! \times 6!}$

press  $\left[ \frac{\Box}{\Box} \right]$  [f1] 1:n/d to open the fraction template.Type 7 and press  $\left[ \frac{\Box}{\Box} \right]$  [f2] 9:!Then press  $\left[ \downarrow \right]$  to move to the denominator type 5 and press $\left[ \frac{\Box}{\Box} \right]$  [f2] 9:!Press  $\left[ \text{enter} \right]$ .

$$\frac{7!}{5!} = 42$$

$\frac{7!}{5!}$	42
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press  $\left[ \frac{\Box}{\Box} \right]$  [f1] 1:n/d to open the fraction template.

Enter 3! In the numerator, 5! In the denominator and press

 $\left[ \text{enter} \right]$ .

$$\frac{3!}{5!} = \frac{1}{20}$$

$\frac{7!}{5!}$	42
$\frac{3!}{5!}$	$\frac{1}{20}$

press  $\left[ \frac{\Box}{\Box} \right]$  [f1] 1:n/d to open the fraction template.Enter  $8! \times 4!$  In the numerator, 10! In the denominator andpress  $\left[ \text{enter} \right]$ .

$$\frac{8! \times 4!}{10!} = \frac{4}{15}$$

$\frac{7!}{5!}$	42
$\frac{3!}{5!}$	$\frac{1}{20}$
$\frac{8! \times 4!}{10!}$	$\frac{4}{15}$

press  $\left[ \frac{\Box}{\Box} \right]$  [f1] 1:n/d to open the fraction template.Enter  $7! \times 5!$  In the numerator,  $10! \times 6!$  in the denominator andpress  $\left[ \text{enter} \right]$ .

$$\frac{7! \times 5!}{10! \times 6!} = \frac{1}{4320}$$

$\frac{7!}{5!}$	$\frac{1}{20}$
$\frac{8! \times 4!}{10!}$	$\frac{4}{15}$
$\frac{7! \times 5!}{10! \times 6!}$	$\frac{1}{4320}$