1. Write the expression for either the relative uncertainty or the absolute uncertainty.
(For sum/difference, start with absolute uncertainty δq. For other types, find the relative uncertainty $\delta q/q$ first.)

$F = ma$	$\frac{\delta F}{F} = \frac{\delta m}{m} + \frac{\delta a}{a}$
$m = m_1 - m_2$	
$V = \frac{1}{6}\pi D^3$	
$q = \sqrt{xy}$	
$T = 2\pi\sqrt{\frac{l}{g}}$	
$L_{ave} = \frac{1}{2}(L_1 + L_2)$	

2. Work out the numbers
Find the numerical value for q and its absolute and relative uncertainties. For products, find the value of the relative uncertainty first, and then multiply by q to get the absolute uncertainty. Quote your answer properly.
$A = (3.3 \pm 0.5)$ m^2, $B = (2.2 \pm 0.1)$ m, $C = (5.5 \pm 0.2)$ m.

Example:

$$q = \frac{3AB}{C}$$

Try yourself:
2a.

$$q = \frac{3AB^2}{C}$$

Answer: (8.7 ± 2.4) m^3 ($\pm$ 28%) or (9 ± 2) m^3 ($\pm$ 28%)

2b.

$$q = A + BC$$

Answer: (15.4 ± 1.5) m^2 ($\pm$ 9.7%)

3. A more complete example

To determine the amount of wallpaper q needed for a square room, a decorator measures:
Wall height, $h = 2.49 \pm 0.01$ m
Wall width, $w = 2.10 \pm 0.01$ m
Area of windows and doors, $A = 3.51 \pm 0.06$ m^2
Find $q = 4hw - A$ and its uncertainty. (Answer: $q = (17.4 \pm 0.2)$ m^2 ($\pm$ 1%))

Try yourself:

To determine the magnitude of the angular momentum L of a uniform disk, a student measures:
Mass, $M = 0.55 \pm 0.01$ kg
Radius, $R = 0.180 \pm 0.005$ m
Angular velocity, $\omega = 15.0 \pm 0.3$ rad/s
Find $L = \frac{1}{2}MR^2\omega$ and its uncertainty.
(Answer: $L = (0.13 \pm 0.01)$ kgm^2/s ($\pm$ 9%) or $L = (0.134 \pm 0.013)$ kgm^2/s ($\pm$ 9.4%))