

**Station I**

Perform calculations with Excel, using **class data**.

Activity = counts – background

Uncertainty = standard deviation of counts + standard deviation of background

Use *unrounded* values to calculate % transmitted.

Use correct significant figures (Report uncertainty rounded to one sig fig. Report activity rounded to the same digit as uncertainty (e.g. tens place). Use sig figs for activity to determine sig figs for % transmitted.)

	Air: average activity ± uncertainty	Paper: average activity ± uncertainty	Aluminum: average activity ± uncertainty	Paper: % transmitted	Aluminum: % transmitted
$\alpha$					
$\beta$					
$\gamma$					

**Station II**

Plot activity vs. distance, activity vs. 1/distance, and activity vs. 1/(distance)<sup>2</sup>

**Attach all 3 plots**, with title, labeled axes, trend lines, and R<sup>2</sup> value for the line.

R<sup>2</sup> will be closest to 1 for the plot that represents the correct relationship between  $\gamma$  radiation and distance. What is the correct relationship? Circle one. “ $\propto$ ” means proportional.

activity  $\propto$  d

activity  $\propto$  1/d

activity  $\propto$  1/d<sup>2</sup>