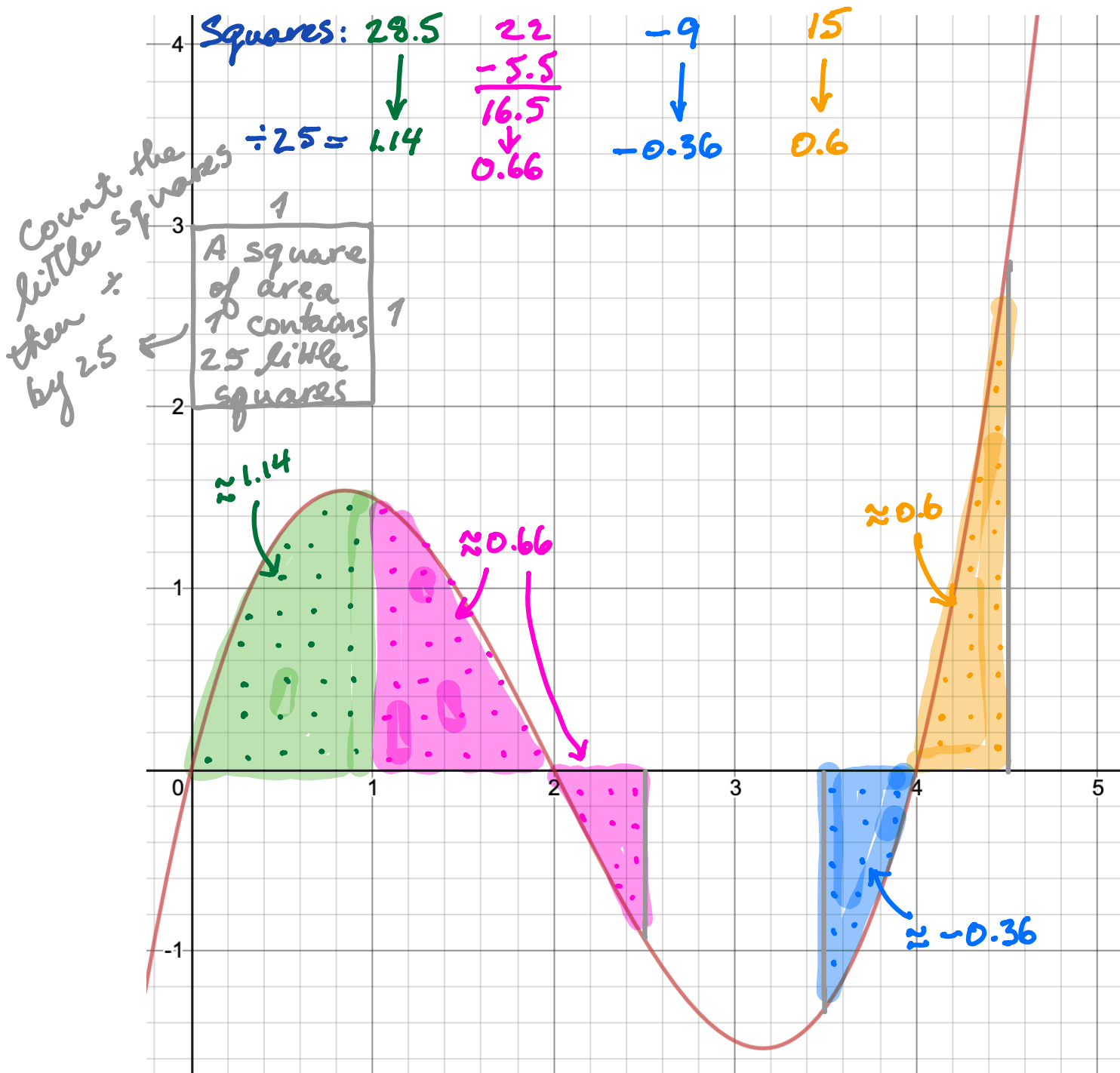


Exercise set 10.1: Integrals as areas

Given the graph of $f(x)$ below estimate:

$$\int_0^1 f(x) dx \quad \int_1^{2.5} f(x) dx \quad \int_{3.5}^4 f(x) dx \quad \int_4^{4.5} f(x) dx$$



Given the graph of $f(x)$ in blue and $g(x)$ in green below estimate:

This is the area between the functions.

Little $\square$ s :

$\times 0.0025$

$$\int_0^1 f(x) dx = 267$$

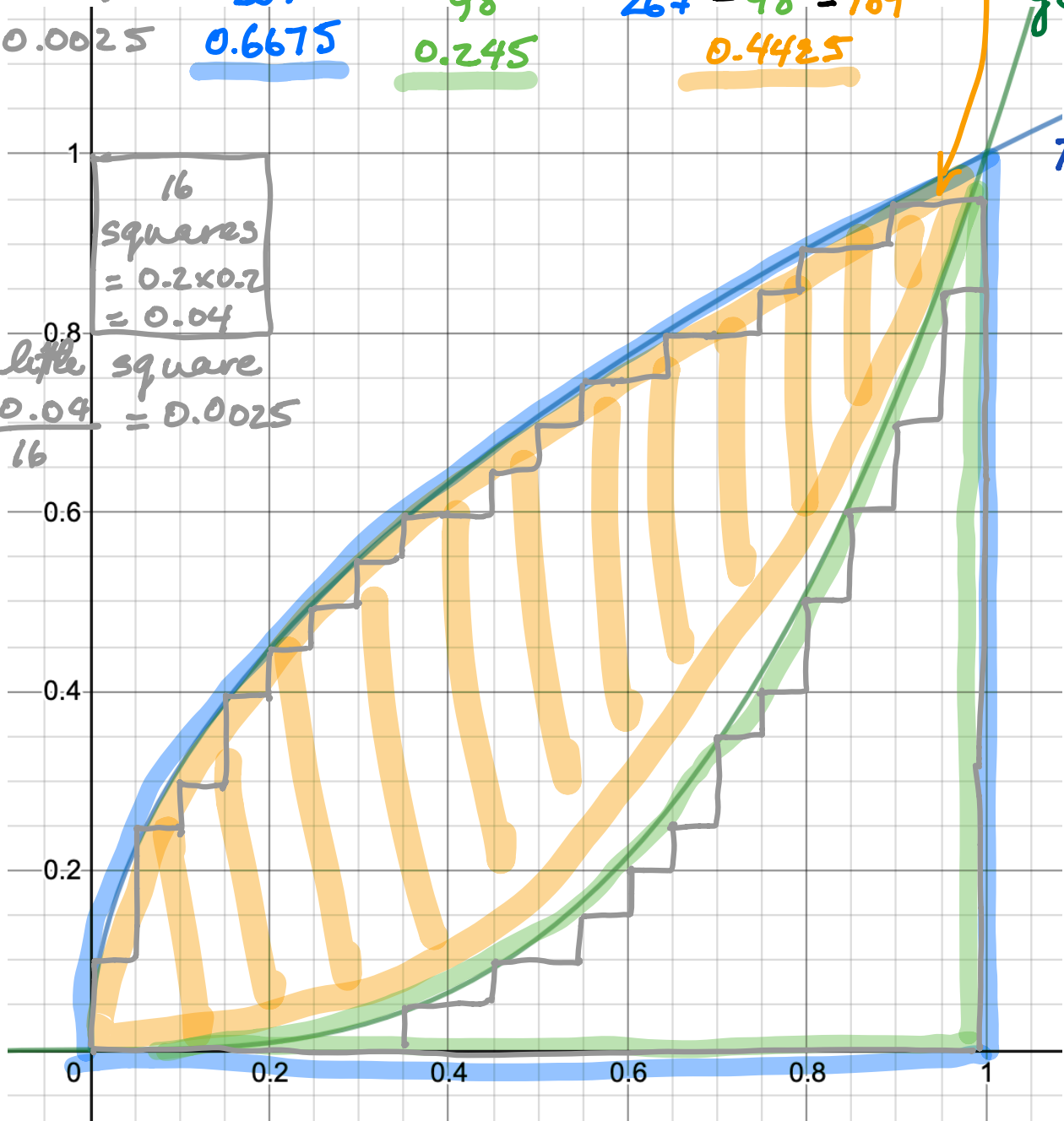
$$0.6675$$

$$\int_0^1 g(x) dx = 98$$

$$0.245$$

$$\int_0^1 (f(x) - g(x)) dx = 267 - 98 = 169$$

$$0.4425$$



16 squares
 $= 0.2 \times 0.2$
 $= 0.04$
 $\Rightarrow$ 1 little square
 $= \frac{0.04}{16} = 0.0025$

Big squares $\rightarrow 13 \times 16$
 Whole little $\square$ s $\rightarrow + 48$
 Partial " " $\rightarrow + 11$
 Total " " $\rightarrow 267$

3×16
 $+ 38$
 $+ 12$
 98