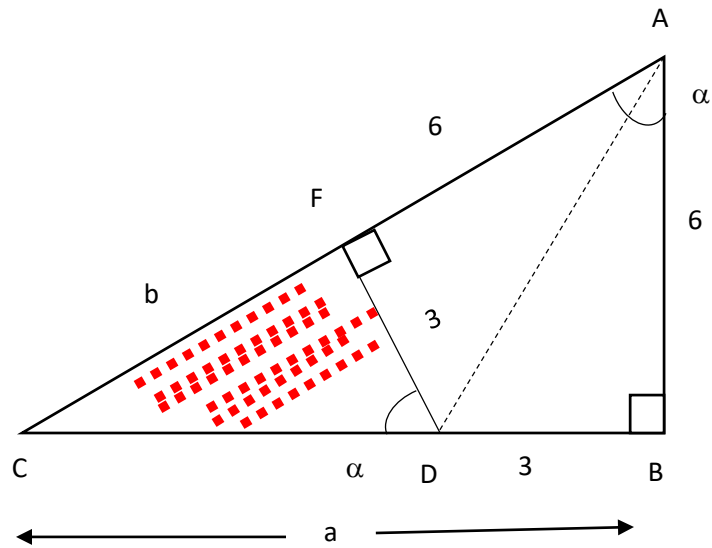


Geometry 5



$\Delta CDF \sim \Delta ABC$

$$\frac{a}{b} = \frac{6}{3} = 2 \Rightarrow a = 2b$$

Pythagorean Theorem

$$\Delta ABC \Rightarrow (AC)^2 = (AB)^2 + (BC)^2$$

$$(6+b)^2 = 6^2 + (2b)^2$$

$$b^2 + 12b = 4b^2 \quad /b$$

$$b + 12 = 4b$$

$$12 = 3b$$

$$b = 4$$

$$CD = 5 \quad (3^2 + 4^2 = 5^2)$$

$$BC = 8$$

$$AC = 6+4=10$$