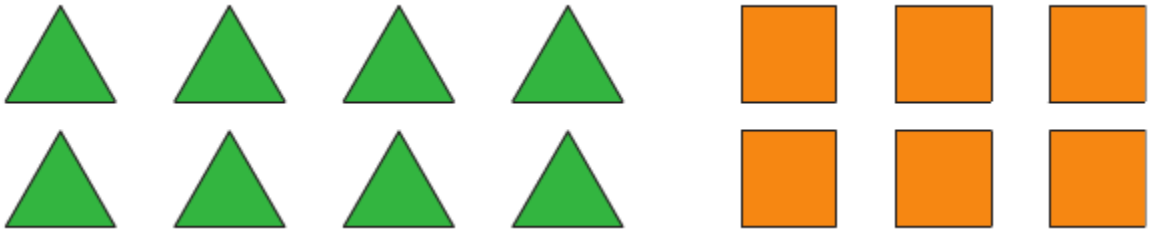
5.6 Equivalent Ratios – Notes

The ratio of triangle to squares is 4 : 3

The ratio of triangles to squares is 8 : 6



The ratios 4 : 3 and 8 : 6 are called equivalent ratios.

$\times 2 \left(\begin{matrix} 4:3 \\ 8:6 \end{matrix} \right) \times 2$

$\frac{4 \times 2}{3 \times 2} = \frac{8}{6}$

Note: an equivalent ratio can be formed by multiplying or dividing the terms of a ratio by the same number.

Example (1): Write 3 ratios equivalent to 6: 11

$\times 2 \left(\begin{matrix} 6:11 \\ \\ 12:22 \end{matrix} \right) \times 2$

$\times 3 \left(\begin{matrix} 6:11 \\ \\ 18:33 \end{matrix} \right) \times 3$

$\times 7 \left(\begin{matrix} 6:11 \\ \\ 42:77 \end{matrix} \right) \times 7$

Example (2): Write 3 ratios equivalent to 48: 8

$\div 2\left(\begin{matrix}48:8\\24:4\end{matrix}\right)\div 2$

$\div 4\left(\begin{matrix}48:8\\12:2\end{matrix}\right)\div 4$

$\div 8\left(\begin{matrix}48:8\\6:1\end{matrix}\right)\div 8$

lowest term/ simplest form

Example (3): A bracelet kit comes in different sizes.
The regular kits contains 210 beads, 140 jewels, and 70 bands.
List 3 other kits that could be created with the same ratio of beads, jewels and bands.

Beads : jewels : bands

$\div 2\left(\begin{matrix}210:140:70\\ \downarrow \div 2\\ 105:70:35\end{matrix}\right)\div 2$

$\times 2\left(\begin{matrix}210:140:70\\ \downarrow \times 2\\ 420:280:140\end{matrix}\right)\times 2$

$\div 10\left(\begin{matrix}210:140:70\\ \downarrow \div 10\\ 21:14:7\end{matrix}\right)\div 10$