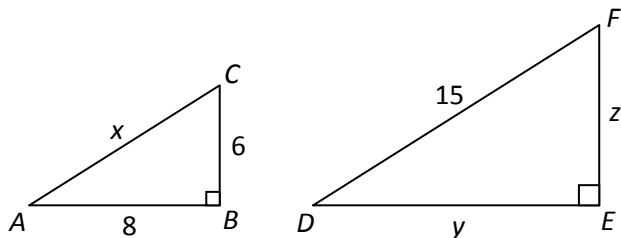


Lesson 4: Similar Triangles—Worksheet

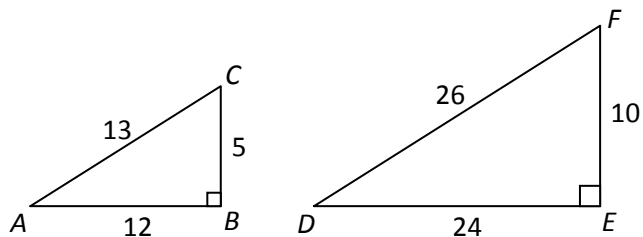
1. In the triangles below, angles A and D are equal. Find x , y , and z .



3-4-5 is a Pythagorean triple. Multiplying it by 2 gives 6-8-10. So, $x = 10$. Then

$$\begin{aligned} \frac{y}{15} &= \frac{8}{10} & \frac{z}{15} &= \frac{6}{10} \\ 10y &= 120 & 10z &= 90 \\ y &= 12 & z &= 9 \end{aligned}$$

2. Note that the following triangles are similar (the larger one's sides are twice the shorter one's sides). In the smaller triangle, find all six possible ratios of two sides, expressing them as decimals. Then express the corresponding six ratios in the larger triangle as decimals as well.



$$\begin{aligned} \frac{5}{13} &\approx 0.3846 & \frac{13}{5} &= 2.6 & \frac{10}{26} &\approx 0.3846 & \frac{26}{10} &= 2.6 \\ \frac{12}{13} &\approx 0.9231 & \frac{13}{12} &\approx 1.0833 & \frac{24}{26} &\approx 0.9231 & \frac{26}{24} &\approx 1.0833 \\ \frac{5}{12} &\approx 0.4167 & \frac{12}{5} &= 2.4 & \frac{10}{24} &\approx 0.4167 & \frac{24}{10} &= 2.4 \end{aligned}$$

The point of this exercise is to solidify your understanding that corresponding ratios are equal in similar triangles.