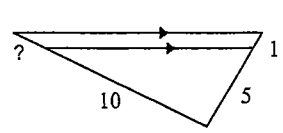
Tough Similarities

Name_____

Find the missing length indicated.

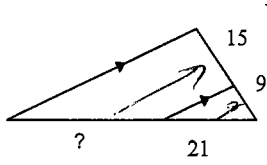
1)



$\frac{x}{1} = \frac{10}{5}$

$x = 2$

2)

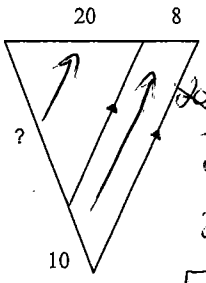


$\frac{x}{15} = \frac{21}{9}$ ×15

$x = \frac{315}{9}$

$x = 35$

3)

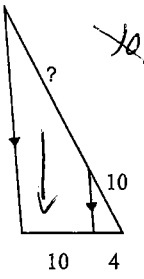


$\frac{x}{20} = \frac{10}{8}$ ×20

$x = \frac{200}{8}$

$x = 25$

4)

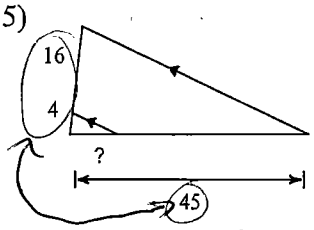


$\frac{x}{10} = \frac{10}{4}$ ×10

$x = \frac{100}{4}$

$x = 25$

5)



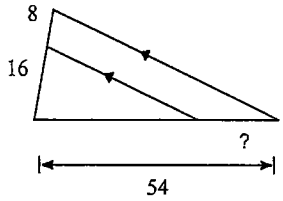
$\frac{x}{4} = \frac{45}{16+4}$

$\frac{x}{4} = \frac{45}{20}$ ×4

$x = \frac{180}{20}$

$x = 9$

6)



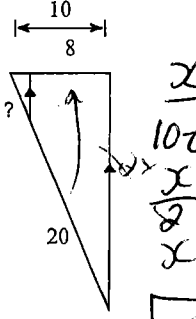
$\frac{x}{8} = \frac{54}{16+8}$

$\frac{x}{8} = \frac{54}{24}$ ×8

$x = \frac{432}{24}$

$x = 18$

7)



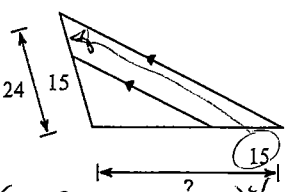
$\frac{x}{10-8} = \frac{20}{8}$

$\frac{x}{2} = \frac{20}{8}$ ×2

$x = \frac{40}{8}$

$x = 5$

8)



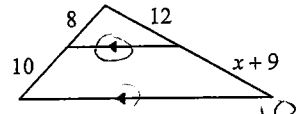
$\frac{x}{24} = \frac{15}{24-15}$ ×24

$x = \frac{360}{9}$

$x = 40$

Solve for x.

9)



$10 \times \frac{x+9}{10} = \frac{12}{8} \times 10$

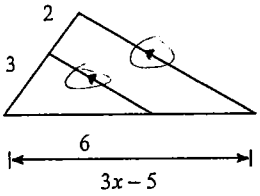
$x + 9 = \frac{120}{8}$

$-9 \quad -9$

$x = 15 - 9$

$\boxed{x = 6}$

10)



$\frac{3x-5}{3+2} = \frac{6}{3}$

$5 \times \frac{3x-5}{5} = \frac{6}{3} \times 5$

$3x - 5 = \frac{30}{3}$

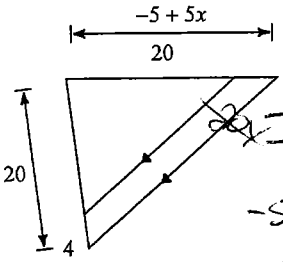
$3x - 5 = 10$

$+5 \quad +5$

$\frac{3x}{3} = \frac{15}{3}$

$\boxed{x = 5}$

11)



$\frac{-5+5x}{20} = \frac{20}{20} \times 20$

$-5 + 5x = \frac{400}{16}$

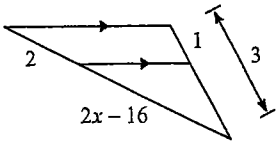
$-5 + 5x = 25$

$+5 \quad +5$

$\frac{5x}{5} = \frac{30}{5}$

$\boxed{x = 6}$

12)



$\frac{2x-16}{3-1} = \frac{2}{1}$

$2 \times \frac{2x-16}{2} = \frac{2}{1} \times 2$

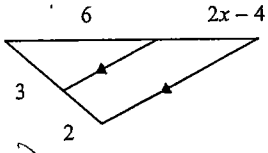
$2x - 16 = 4$

$+16 \quad +16$

$\frac{2x}{2} = \frac{20}{2}$

$\boxed{x = 10}$

13)



$2 \times \frac{2x-5}{2} = \frac{6}{3} \times 2$

$2x - 5 = \frac{12}{3}$

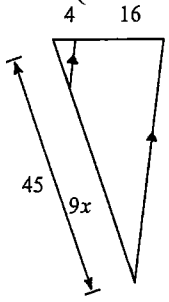
$2x - 5 = 4$

$+5 \quad +5$

$\frac{2x}{2} = \frac{9}{2}$

$\boxed{x = 4.5}$

14)



$16 \times \frac{9x}{16} = \frac{45}{16+4} \times 16$

$9x = \frac{720}{20}$

$\frac{9x}{9} = \frac{36}{9}$

$\boxed{x = 4}$