

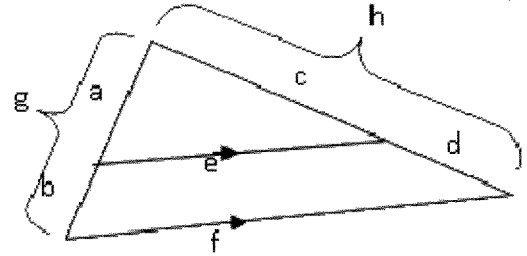
7-4 & 7-5 Proportional Lengths HW

Name Master E
Date _____ Block _____

The diagram shows a segment parallel to one side of a triangle. For Exercises 1-4, tell whether the proportion is correct. (Write True or False.)

True 1. $\frac{e}{f} = \frac{a}{g}$ False 2. $\frac{e}{f} = \frac{c}{d}$ h!

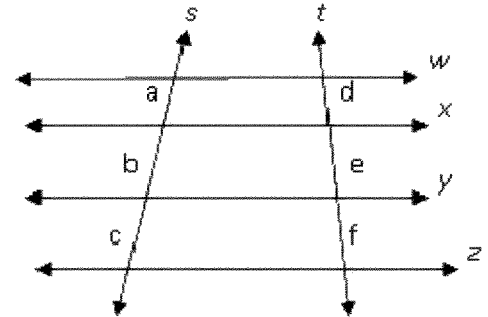
True 3. $\frac{b}{a} = \frac{d}{c}$ False 4. $\frac{b}{g} = \frac{c}{h}$ d!



For Exercises 5-8, tell whether the proportion is correct. (Write True or False.)

False 5. $\frac{a}{b} = \frac{e}{d}$ True 6. $\frac{e}{f} = \frac{b}{c}$

True 7. $\frac{e}{d} = \frac{b}{a}$ False 8. $\frac{a}{e} = \frac{d}{b}$



For Exercises 9-18, find the value of x.

9. $\frac{18}{6} = \frac{x+22}{x+2}$
 $18x + 36 = 6x + 132$
 $12x = 96$
 $x = 8$

10. $\frac{x}{x+12} = \frac{11}{22}$
 $22x = 11(x+12)$
 $11x = 132$
 $x = 12$

11. $x = \frac{35}{2}$ (It's a midsegment!)
 $x = 17.5$

12. $\frac{10}{22} = \frac{8}{x}$
 $10x = 176$
 $x = 17.6$

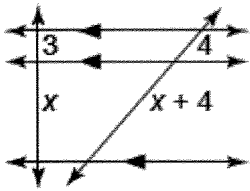
13. $DE = \frac{7.5}{2} (\frac{1}{2} AC)$
 $DB = \frac{9.2}{2} (\frac{1}{2} AB)$
 $AB = 2FE!$

14. $\frac{x}{x+10} = \frac{10}{30}$
 $10x + 100 = 30x$
 $100 = 20x$
 $x = 5$

15. $\frac{24}{x} = \frac{30}{10}$
 $30x = 240$
 $x = 8$

16. $\frac{5x}{3x} = \frac{x+12}{12}$
 $3x + 36 = 60$
 $3x = 24$
 $x = 8$

17.



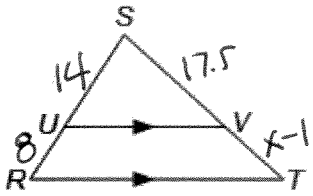
$$\frac{3}{x} = \frac{4}{x+4}$$

$$3x+12 = 4x$$

$$x = \underline{12}$$

For Exercises 19-24, find x and the indicated measures.

19. If $RU = 8$, $US = 14$, $TV = x - 1$, and $VS = 17.5$, find x and TV .



$$\frac{14}{8} = \frac{17.5}{x-1}$$

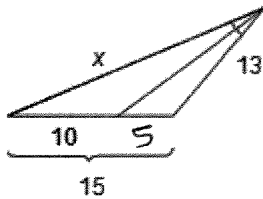
$$14x - 14 = 140$$

$$14x = 154$$

$$x = \underline{11}$$

$$TV = \underline{10}$$

21.

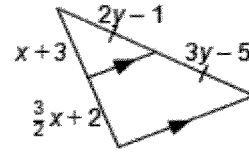


$$\frac{x}{13} = \frac{10}{5}$$

$$5x = 130$$

$$x = \underline{26}$$

18.



$$\frac{x+3}{2x+2} = \frac{2y-1}{3y-5}$$

but $2y-1 = 3y-5$
so $y = 4$

$$x+3 = \frac{3}{2}x+2$$

$$1 = \frac{1}{2}x$$

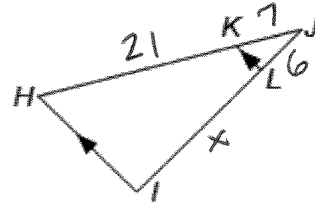
$$2 = x$$

$$x = \underline{2}$$

$$y = \underline{4}$$

check $\frac{5}{5} = \frac{7}{7}$ ✓

20. If $JK = 7$, $KH = 21$, and $JL = 6$, find LI .



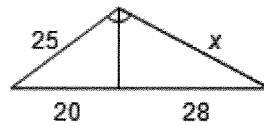
$$\frac{7}{21} = \frac{6}{x}$$

$$7x = 126$$

$$x = 18$$

$$LI = \underline{18}$$

22.

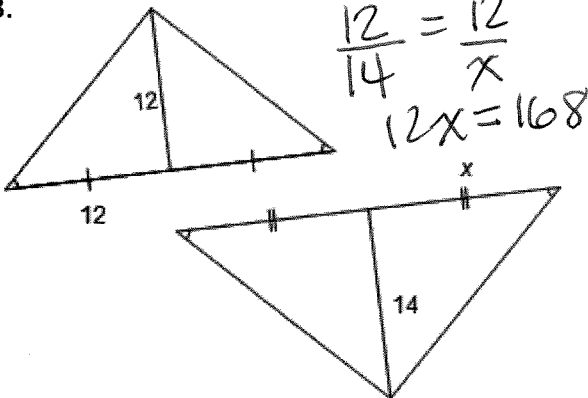


$$\frac{25}{x} = \frac{20}{28}$$

$$20x = 700$$

$$x = \underline{35}$$

23.

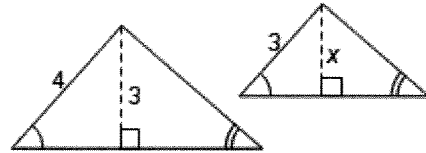


$$\frac{12}{14} = \frac{12}{x}$$

$$12x = 168$$

$$x = \underline{14}$$

24.



$$\frac{4}{3} = \frac{3}{x}$$

$$4x = 9$$

$$x = \underline{2.25} \text{ or } \underline{\frac{9}{4}}$$