7-1 to 7-4 Review Worksheet

Name Master
Date _____ Block _____

1-5: Solve each word problem.

1. A tight end scored 6 touchdowns in 14 games. Find the ratio of touchdowns per game.
$6:14 =$ 3:7

2. In a schedule of 6 classes, Marta has 2 elective classes. What is the ratio of elective to non-elective classes in Marta's schedule?
$2:4$ 1:2

3. Out of 274 listed species of birds in the United States, 78 species made the endangered list. Find the ratio of endangered species of birds to listed species in the United States.
$\frac{ES}{B}$ $\frac{78}{274}$ $\frac{39}{137}$ 39:137

4. The ratio of the measures of the sides of a triangle is 4:6:8 and its perimeter is 126 feet. What are the measures of the sides of the triangle?
$4X+6X+8X=126$ $18X=126$ $X=7$ 28:42:56

5. The ratio of the measures of the three angles of a triangle is 5:7:8. Find the measure of each angle of the triangle.
$5X+7X+8X=180$ $20X=180$ $X=9$ 45:63:72

6-8: Solve each proportion.

6. $\frac{2}{5}=\frac{x}{40}$ $5X=80$ $X=16$

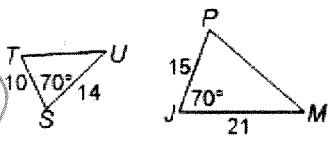
7. $\frac{7}{10}=\frac{21}{x}$ $7X=210$ $X=30$

8. $\frac{15}{3}=\frac{x-3}{5}$ $3X-9=75$ $3X=84$ $X=28$

9-12: Determine whether each pair of figures is similar. If so, write the similarity statement and scale factor. If not, explain your reasoning.

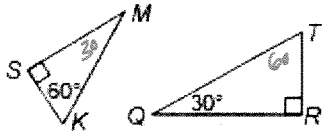
state why they are ~ SSS~ SAS~ or AA~

9. SAS~



$\frac{10}{15}=\frac{14}{21}$

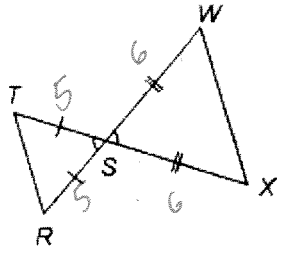
10. AA~



$\triangle TSU \sim \triangle PJM$ S.F. why? 2:3 SAS~

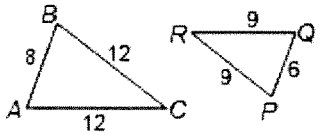
$\triangle MSK \sim \triangle QRT$ S.F. why? AA~

11. SAS~



$\triangle TSR \sim \triangle WSX$ S.F. SAS~
or $\triangle RST \sim \triangle XSW$

12.

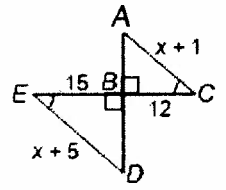


$\frac{8}{6}$ $\frac{12}{9}$ $\frac{12}{9}$

$\triangle ABC \sim \triangle QPR$ S.F. SSS~

13-15: Write a proportion for each pair of similar triangles and solve for x. Then find each measure.

13. AC = 16



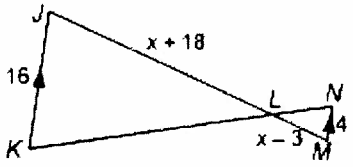
$\frac{15}{12} = \frac{x+5}{x+1}$

$15x+15 = 12x+60$

$3x = 45$

$x = 15$

14. JL = 28



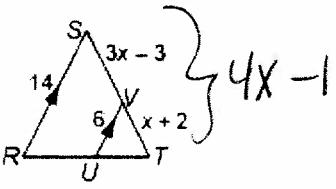
$\frac{16}{4} = \frac{x+18}{x-3}$

$4x+72 = 16x-48$

$120 = 12x$

$x = 10$

15. VT = 5.4



$\frac{6}{14} = \frac{x+2}{4x-1}$

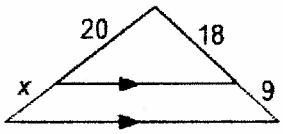
$24x-6 = 14x+28$

$10x = 34$

$x = 3.4$

16-21: Write a proportion for each figure and find the value of x.

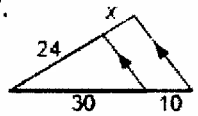
16.



$\frac{20}{x} = \frac{18}{9}$ $18x = 180$

$x = 10$

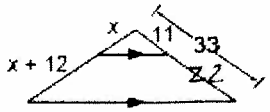
17.



$\frac{24}{x} = \frac{30}{10}$ $30x = 240$

$x = 8$

18.

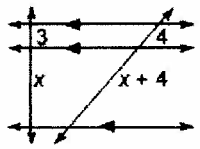


$\frac{x}{x+12} = \frac{11}{22}$ $22x = 11x+132$

$11x = 132$

$x = 12$

19.

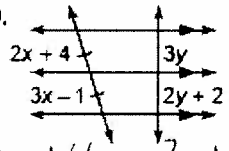


$\frac{3}{x} = \frac{4}{x+4}$

$3x+12 = 4x$

$12 = x$

20.



$\frac{2x+4}{3x-1} = \frac{3y}{2y+2}$

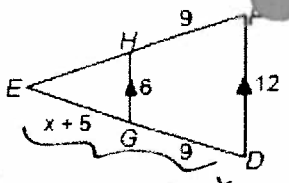
$2x+4 = 3x-1$

$5 = x$

$3y = 2y+2$

$y = 2$

21.



$\frac{6}{12} = \frac{x+5}{x+14}$

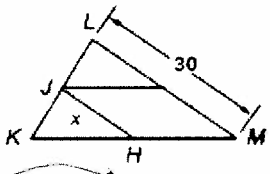
$6x+84 = 12x+60$

$24 = 6x$

$x = 4$

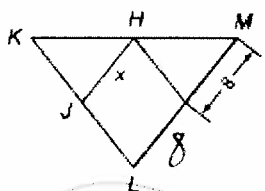
22-24: JH is a midsegment of ΔKLM. Find the value of x.

22.



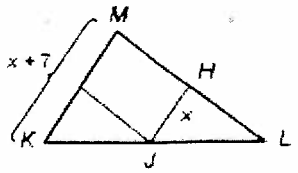
$x = 15$

23.



$x = 8$

24.



$x = \frac{1}{2}(x+7)$

$x = \frac{1}{2}x + 3.5$

$\frac{1}{2}x = 3.5$

$x = 7$