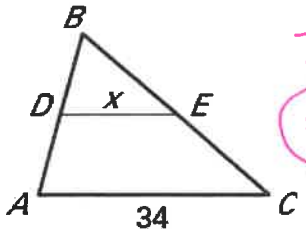
Name: Key Per: _____ Date: _____

FINAL EXAM REVIEW—SEMESTER 2

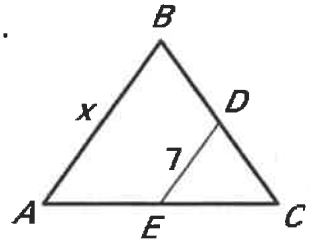
CHAPTER 5 REVIEW

If $\overline{DE}$ is the midsegment of $\triangle ABC$. What is the value of x?

1. 

$\frac{1}{2}(34)$

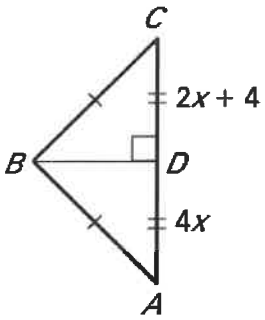
$= 17$

2. 

$2(7)$

$= 14$

Find the length of $\overline{CD}$.

3. 

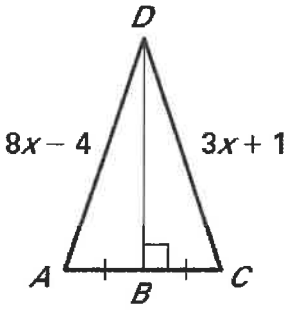
$2x+4 = 4x$

$4 = 2x$

$2 = x$

$\overline{CD} = 2(2)+4$

$\overline{CD} = 8$

4. 

$8x-4 = 3x+1$

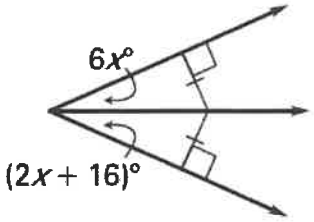
$-3x \quad +4 \quad -3x \quad +4$

$5x = 5$

$x = 1$

$\overline{CD} = 3(1)+1$

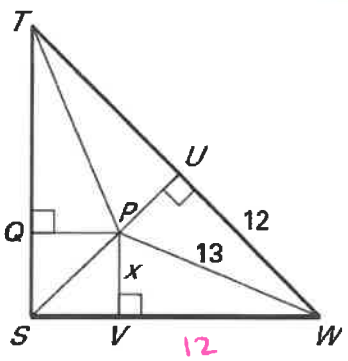
$\overline{CD} = 4$

5. 

$6x = 2x+16$

$4x = 16$

$x = 4$

6. 

$12^2 + x^2 = 13^2$

$144 + x^2 = 169$

$x^2 = 25$

$x = \sqrt{25}$

$x = 5$

In △ *ABC*, G is the balancing point. AD = 8, AG = 10, and CD = 18. Find the indicated measure?

7. $\overline{BD}$ 8 ∴ all are medians

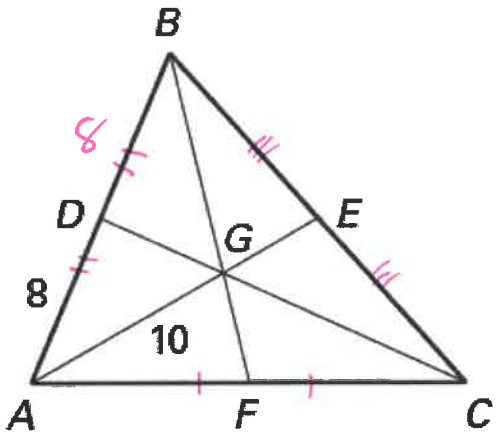
8. $\overline{AB}$ 16

9. $\overline{EG}$ 5 (½ of 10)

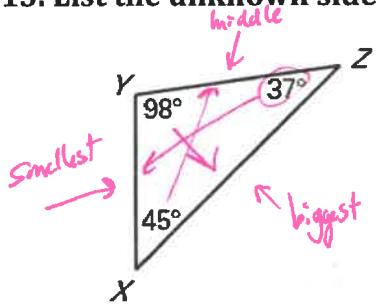
10. $\overline{AE}$ 5+10 → 15

11. $\overline{CG}$ =12 if $\overline{CD}$ = 18, 3x=18, x=6, 2x=12

12. $\overline{DG}$ =6



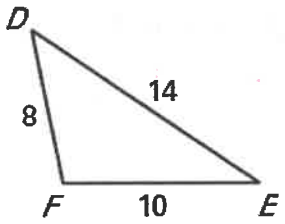
13. List the unknown sides in order from least to greatest.



opposite angle – side

$\overline{XY} < \overline{YZ} < \overline{XZ}$

14. List the unknown angles in order from greatest to least.



∠F > ∠D > ∠E

Fill in the blanks to describe the possible lengths for the third side of a triangle given the other two side lengths.

15. 4ft, 12ft

12−4 12+4

8ft < x < 16ft

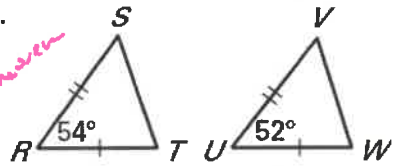
16. 9m, 18m

18−9 18+9

9m < x < 27m

Determine with side is larger. Fill in the blank using > , < , or = .

17.

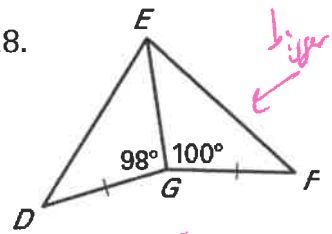


hinge theorem

ST > VW

"bigger angle"

18.



bigger angle

DE < EF

CHAPTER 6 REVIEW

Simplify the ratio.

19. $\frac{10\,ft}{30in}$ $\frac{1ft}{3in} = \frac{12in}{3in} = \frac{4}{1}$

20. $\frac{4lb}{8oz}$ $\frac{1lb}{2oz}$ $\frac{16oz}{2oz} = \frac{8}{1}$

Solve the proportion.

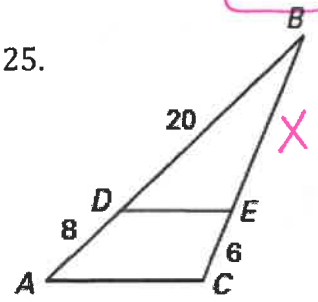
21. $\frac{x}{30} = \frac{7}{15}$ $\frac{210}{15} = \frac{15x}{15}$ $14 = x$

22. $\frac{2}{3x-10} = \frac{8}{20}$ $8(3x-10) = 2 \cdot 20$ $24x - 80 = 40$ $\frac{24x}{24} = \frac{120}{24}$ $x = 5$

Find the geometric mean of the two numbers.

23. 6 and 24 $\frac{6}{x} = \frac{x}{24}$ $x^2 = 144$ $x = 12$

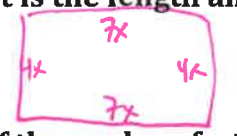
24. 16 and 25 $\frac{16}{x} = \frac{x}{25}$ $x^2 = 400$ $x = 20$

25. 

Given $\frac{BD}{DA} = \frac{BE}{EC}$, find BE.

$\frac{20}{8} = \frac{x}{6}$ $\frac{120}{8} = \frac{8x}{8}$ $15 = x$

26. The perimeter of a rectangular corn field is 440 meters. The ratio of its length to width is 7 : 4. What is the length and width of the corn field?

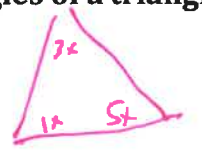


$(4x + 4x + 7x + 7x) = 440$ $22x = 440$ $x = 20$

$7(20) = 140$ $4(20) = 80$

length: 140 width: 80

27. If the angles of a triangle are in ratio of 1 : 3 : 5, what are the measures of each angle in the triangle?

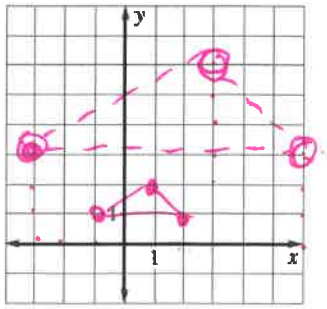


$1x + 3x + 5x = 180$ $9x = 180$ $x = 20$

$x = 20°$ $3x = 60°$ $5x = 100°$

28. Use the coordinates below to perform a dilation of the triangle with the given scale factor. Label the pre-image and the image with their respected vertices.

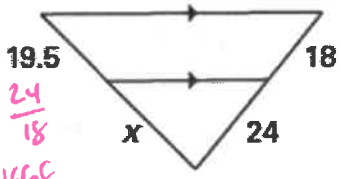
$A(-1,1), B(2,1), C(1,2); k = 3$



Did not cover

Solve for x.

29.

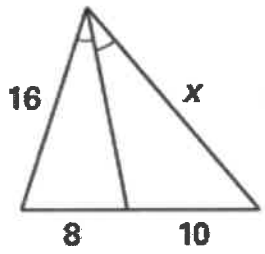


$\frac{x}{19.5} = \frac{24}{18}$

$18x = 468$

$x = 26$

30.



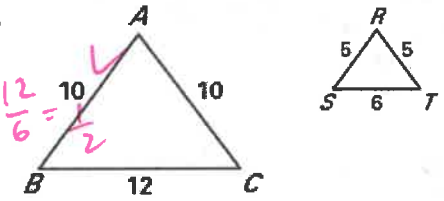
$\frac{x}{10} = \frac{16}{8}$

$8x = 160$

$x = 20$

Determine if the figures are similar. If so, state the postulate or theorem used to prove they are similar (SSS, SAS, AAS, ASA, or HL).

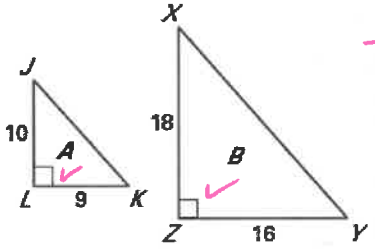
31.



$\frac{10}{5} = \frac{10}{5} = \frac{12}{6} = 2$

SSS

32.



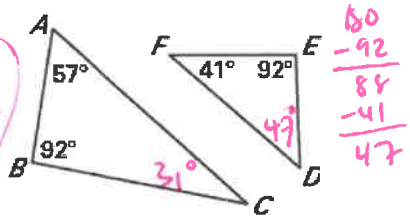
$\frac{10}{18} = \frac{9}{16}$?

$160 = 162$?

NO!

Not Similar

33.

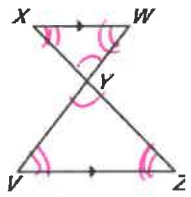


$180 - 92 = 88$

$88 - 41 = 47$

Not Similar

34.



AAA

If WXYZ ~ MNOP, use the diagram to answer the following questions.

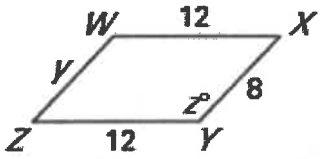
35. What is the scale factor of WXYZ to MNOP?

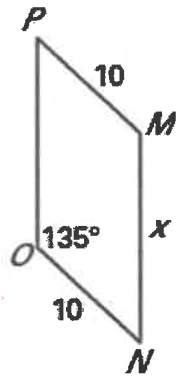
$\frac{8}{10} = \frac{4}{5}$

36. What is the scale factor of MNOP to WXYZ?

$\frac{10}{8} = \frac{5}{4}$

37. Solve for z.





135° (same)

38. Solve for x.

$\frac{x}{12} = \frac{10}{8}$

$8x = 120$

$x = 15$

39. Solve for y.

8

40. Find the perimeter of each quadrilateral.

WXYZ

$2(12) + 2(8)$

$24 + 16 = 40$

MNOP

$2(15) + 2(10)$

$30 + 20 = 50$