Name Key

Ch 7 Test Review

Class _____

Solve each proportion.

7.1 1) $\frac{8}{4}=\frac{3}{x}$

$8x = 3(4)$

$8x = 12$

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

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

$= 1.5$

2) $\frac{3}{9}=\frac{7}{n}$

$3n = 7(9)$

$3n = 63$

$n = 21$

3) $\frac{3}{8}=\frac{x+6}{4}$

$3(4) = 8(x+6)$

$12 = 8x + 48$

$12 - 48 = 8x$

$-36 = 8x$

$-4\frac{4}{8} = x$

-4.5

4) $\frac{8}{n+2}=\frac{3}{8}$

$8(8) = 3(n+2)$

$64 = 3n + 6$

$58 = 3n$

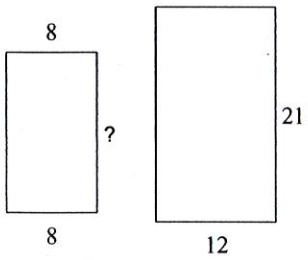
$19\frac{1}{3} = n$

$19.\overline{3} = n$

$3\overline{)58}$ $19.$ 3 28 27 1

The polygons in each pair are similar. Find the missing side length.

5)



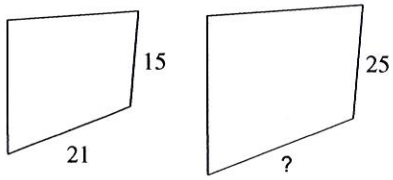
$\frac{8}{12} = \frac{x}{21}$ (2, 3)

$2(21) = 3x$

$42 = 3x$

$14 = x$

6)



$\frac{x}{21} = \frac{25}{15}$ (5, 3)

$3x = 5(21)$

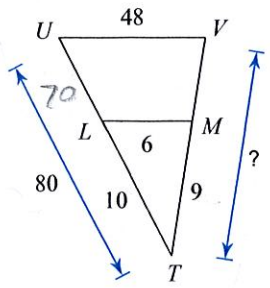
$3x = 105$

$x = 35$

$3\overline{)105}$ 35 -9 15

Find the missing length. The triangles in this pair are similar.

7)



7.2

$\frac{LT}{UT} = \frac{MT}{TV}$

$\frac{10}{80} = \frac{9}{x}$

$x = 72$

alt

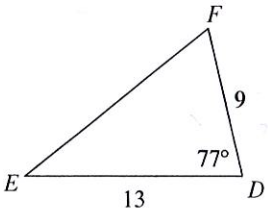
$\frac{9}{10} = \frac{x}{80}$

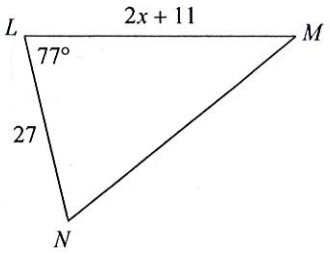
$\frac{720}{10} = x$

$72 = x$

Solve for x. The triangles in each pair are similar. $\triangle FDE \sim \triangle NLM$

8)





$\frac{FD}{NL} = \frac{DE}{LM}$

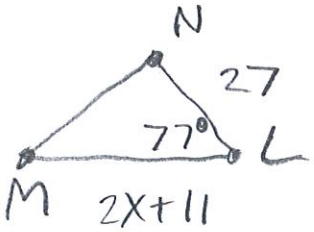
$\frac{9}{27} = \frac{13}{2x+11}$

$2x+11 = 3(13)$

$2x+11 = 39$

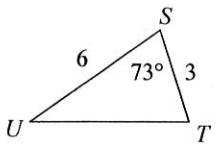
$2x = 28$

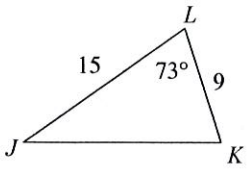
$x = 14$



State if the triangles in this pair are similar. If so, state how you know they are similar and complete the similarity statement.

9)





$\triangle LKJ \sim$ _____

$\frac{ST}{LK} = \frac{3}{9} = \frac{1}{3}$

$\frac{SU}{LJ} = \frac{6}{15} = \frac{2}{5}$

$\frac{1}{3} \neq \frac{2}{5}$

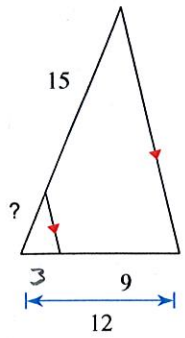
Not similar

$\frac{3}{6} \stackrel{?}{=} \frac{9}{15}$

$45 \neq 54$

Find the missing length indicated.

10)



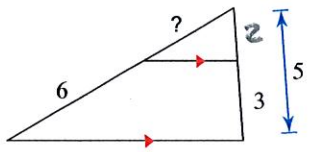
7.41

$\frac{X}{15} = \frac{3}{9}\frac{1}{3}$

$3X = 15$

$X = \boxed{5}$

11)



$\frac{2}{3} = \frac{x}{6}$

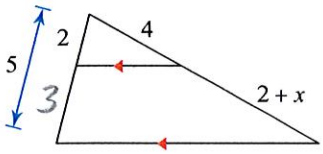
$2(6) = 3x$

$12 = 3x$

$\boxed{4} = x$

Solve for *x*.

12)



$\frac{2}{3} = \frac{4}{2+x}$

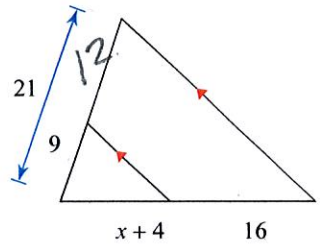
$2(2+x) = 4(3)$

$4 + 2x = 12$

$2x = 8$

$x = \boxed{4}$

13)



$\frac{3}{4}\frac{9}{12} = \frac{x+4}{16}$

$3(16) = 4(x+4)$

$48 = 4x + 16$

$48 - 16 = 4x$

$32 = 4x$

$\boxed{8} = x$

$\frac{16}{\cdot 3}\ x$
48

More practice solve proportions.

14) $\frac{x}{5}=\frac{6}{10}$

$10x = 6(5)$

$10x = 30$

$x = \boxed{3}$

15) $\frac{n}{9}=\frac{5}{3}$

$3n = 5(9)$

$3n = 45$

$n = \boxed{15}$

16) $\frac{8}{10}=\frac{a}{4}$

$4(8) = 10a$

$32 = 10a$

$\boxed{3.2} = a$

17) $\frac{4}{5}=\frac{9}{v}$

$4v = 9(5)$

$4v = 45$

$v = \frac{45}{4}$

$v = \boxed{11.25}$

18) $\frac{5}{x+4}=\frac{3}{8}$

$5(8) = 3(x+4)$

$40 = 3x + 12$

$40-12 = 3x$

$28 = 3x$

$\boxed{9.\overline{3}} = x$

19) $\frac{2}{a-8}=\frac{10}{3}$

$2(3) = 10(a-8)$

$6 = 10a - 80$

$6+80 = 10a$

$86 = 10a$

$\boxed{8.6} = a$

20) $\frac{10}{3}=\frac{n+8}{n-9}$

$10(n-9) = 3(n+8)$

$10n - 90 = 3n + 24$

$10n - 3n = 90 + 24$

$7n = 114$

$n = \frac{114}{7}$

$n = \boxed{16.29}$

21) $\frac{n-5}{n+2}=\frac{9}{5}$

$5(n-5) = 9(n+2)$

$5n - 25 = 9n + 18$

$-25 - 18 = 9n - 5n$

$-43 = 4n$

$-\frac{43}{4} = n$

$\boxed{-10.75} = n$