

# Section 4.3 Homework

Pg 235-236

## PRACTICE AND PROBLEM SOLVING, PAGES 235-236

12.	Statements	Reasons
	1. $\angle UST \cong \angle RST, \angle U \cong \angle R$	1. Given
	2. $\angle STU \cong \angle STR$	2. Third $\triangle$ Thm.
	3. $\overline{SU} \cong \overline{SR}$	3. Given
	4. $\overline{ST} \cong \overline{ST}$	4. Reflex. Prop. of $\cong$
	5. $\overline{TU} \cong \overline{TR}$	5. Given
	6. $\triangle RTS \cong \triangle UTS$	6. Def. of $\cong \triangle$

13.  $\overline{LM}$

15.  $\angle N$

17.  $\angle ADB \cong \angle CDB$   
 $m\angle ADB = m\angle CDB$   
 $4x + 10 = 90$   
 $4x = 80$   
 $x = 20$   
 $m\angle C = x + 11 = 31^\circ$

14.  $\overline{CF}$

16.  $\angle D$

18.  $\overline{AB} \cong \overline{CB}$   
 $AB = CB$   
 $y - 7 = 12$   
 $y = 19$

21.  $\triangle GSR \cong \triangle KPH$   
 $\triangle SRG \cong \triangle PHK$   
 $\triangle RSG \cong \triangle HPK$

22.  $RVUTS \cong VWXZY$

23.  $\overline{AB} \cong \overline{DE}$   
 $AB = DE$   
 $2x - 10 = x + 20$   
 $x = 30$   
 $AB = 2x - 10$   
 $= 2(30) - 10 = 50$

24.  $\angle L \cong \angle P$   
 $m\angle L = m\angle P$   
 $x^2 + 10 = 2x^2 + 1$   
 $9 = x^2$   
 $m\angle L = x^2 + 10$   
 $= 9 + 10 = 19^\circ$

25.  $\overline{BC} \cong \overline{QR}$   
 $BC = QR$   
 $6x + 5 = 5x + 7$   
 $x = 2$   
 $BC = 6x + 5$   
 $= 6(2) + 5 = 17$

31. B  
 Matching up  $\triangle$ ,  $\triangle ABC \cong \triangle FDE$ .

32. G

$\angle N \cong \angle S$	$\angle M \cong \angle R$
$m\angle N = m\angle S$	$m\angle M = m\angle R$
$62 = 2x + 8$	$58 = 3y - 2$
$54 = 2x$	$60 = 3y$
$x = 27$	$y = 20$

33. D  
 $m\angle Y = 180 - (m\angle X + m\angle Z)$   
 $= 180 - (m\angle A + m\angle C)$   
 $= 180 - 60.9 = 119.1^\circ$

34. J  
 $P = MN + NR + RM$   
 $= SP + QP + SR + RQ$   
 $= 33 + 30 + 10 + 24 = 97$

# Review/Extra Practice

## READY TO GO ON? PAGE 239

- rt.  $\triangle$ , since  $\angle ACB$  is rt.  $\angle$
- equiangular, since  $m\angle BAD = 30 + 30 = 60^\circ = m\angle B = m\angle ADB$
- obtuse, since  $m\angle ADE = m\angle B + m\angle BAD = 120^\circ$
- isosc., since  $PQ = QR = 5, PR = 8.7$
- equilateral, since  $PR = RS = PS = 5$
- scalene, since  $PQ = 8.7, QS = 5 + 5 = 10, PS = 5$

7.  $m\angle M + m\angle N = m\angle NLK$   
 $6y + 3 + 84 = 151 - 2y$   
 $8y = 64$   
 $y = 8$   
 $m\angle M = 6y + 3 = 51^\circ$

8.  $m\angle C + m\angle D = m\angle ABC$   
 $90 + 5x = 20x - 15$   
 $105 = 15x$   
 $x = 7$   
 $m\angle ABC = 20x - 15 = 125^\circ$

9.  $m\angle RTP = m\angle R + m\angle T = 55 + 37 = 92^\circ$

10.  $\overline{EF}$

11.  $\overline{JL}$

12.  $\angle E$

13.  $\angle L$

14.  $\overline{PR} \cong \overline{SU}$   
 $PR = SU$   
 $14 = 3m + 2$   
 $12 = 3m$   
 $m = 4$   
 $PQ = 2m + 1 = 9$

15.  $\angle S \cong \angle P$   
 $m\angle S = m\angle P$   
 $2y = 46$   
 $y = 23$