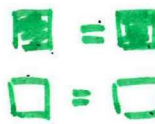


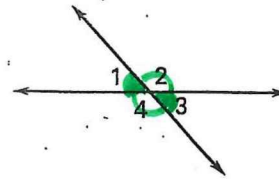
LESSON 2.7 Practice
For use with pages 122-131



$\square + \square = 180$

Use the diagram to decide whether the statement is *true* or *false*.

1. If $m\angle 1 = 47^\circ$, then $m\angle 2 = 43^\circ$. *False*
 $m\angle 1 + m\angle 2 = 180$
 $47 + 43 \neq 180$
2. If $m\angle 1 = 47^\circ$, then $m\angle 3 = 47^\circ$. *True*
 $m\angle 1 = m\angle 3$
 $47 = 47 \checkmark$
3. $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$. *False*
acute + acute \neq obtuse + obtuse
ex: $40 + 40 \neq 140 + 140$
4. $m\angle 1 + m\angle 4 = m\angle 2 + m\angle 3$. *True*
 $180 = 180 \checkmark$

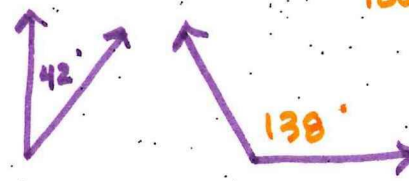


Make a sketch of the given information. Label all angles which can be determined.

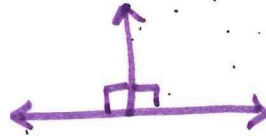
5. Adjacent complementary angles where one angle measures 42°



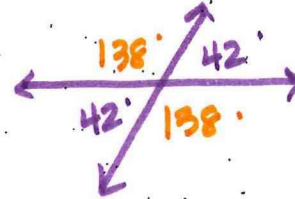
6. Nonadjacent supplementary angles where one angle measures 42°



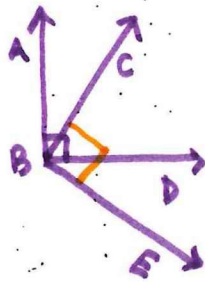
7. Congruent linear pairs



8. Vertical angles which measure 42°

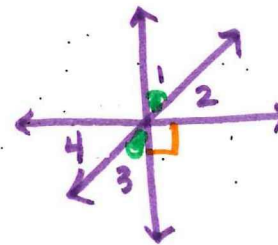


9. $\angle ABC$ and $\angle CBD$ are adjacent complementary angles. $\angle CBD$ and $\angle DBE$ are adjacent complementary angles.



common ray

10. $\angle 1$ and $\angle 2$ are complementary.
 $\angle 3$ and $\angle 4$ are complementary.
 $\angle 1$ and $\angle 3$ are vertical angles.



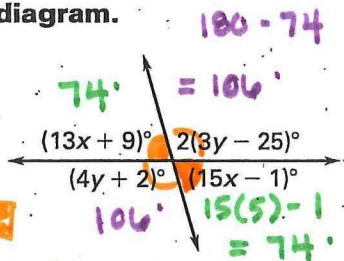
LESSON 2.7

Practice *continued*
For use with pages 122-131

VA LP
 $\square = \square$ $\square + \square = 180$
 $\square = \square$

Find the value of the variables and the measure of each angle in the diagram.

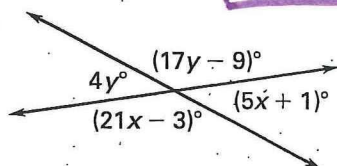
11.



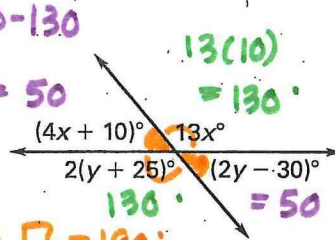
$13x + 9 = 15x - 1$
 $-15x \quad -15x$
 $-2x + 9 = -1$
 $-9 \quad -9$
 $-2x = -10$
 $x = 5$

$4y + 2 = 106$
 $-2 \quad -2$
 $4y = 104$
 $y = 26$

13.



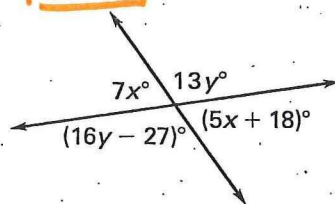
12.



$4x + 10 + 13x = 180$
 $17x + 10 = 180$
 $-10 \quad -10$
 $17x = 170$
 $x = 10$

$2y - 30 = 50$
 $+30 \quad +30$
 $2y = 80$
 $y = 40$

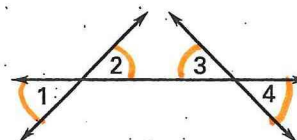
14.



Give a reason for each step of the proof.

15. GIVEN: $\angle 2 \cong \angle 3$

PROVE: $\angle 1 \cong \angle 4$



Statements

1. $\angle 2 \cong \angle 3$
2. $\angle 3 \cong \angle 4$
3. $\angle 2 \cong \angle 4$
4. $\angle 1 \cong \angle 2$
5. $\angle 1 \cong \angle 4$

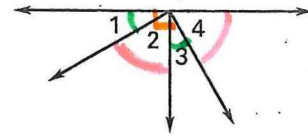
Reasons

1. Given
2. VA \cong Thm
3. Transitive
4. VA \cong Thm
5. Transitive

LESSON 2.7 **Practice** *continued*
For use with pages 122-131

16. **GIVEN:** $\angle 1$ and $\angle 2$ are complementary.
 $\angle 1 \cong \angle 3, \angle 2 \cong \angle 4$

PROVE: $\angle 3$ and $\angle 4$ are complementary.



Statements	Reasons
1. $\angle 1$ and $\angle 2$ are complementary.	1. <u>Given</u>
2. $m\angle 1 + m\angle 2 = 90^\circ$	2. <u>Def of complementary \angles</u>
3. $\angle 1 \cong \angle 3, \angle 2 \cong \angle 4$	3. <u>Given</u>
4. $m\angle 1 = m\angle 3, m\angle 2 = m\angle 4$	4. <u>Def of \cong</u>
5. $m\angle 3 + m\angle 2 = 90^\circ$	5. <u>Substitution</u>
6. $m\angle 3 + m\angle 4 = 90^\circ$	6. <u>Substitution</u>
7. $\angle 3$ and $\angle 4$ are complementary.	7. <u>Def of complementary \angles</u>

In the diagram, $\angle 1$ is a right angle and $m\angle 6 = 36^\circ$. Complete the statement with $<$, $>$, or $=$.

17. $m\angle 6 + m\angle 7 \stackrel{?}{=} m\angle 4 + m\angle 5$
 $180^\circ \quad 180^\circ$

18. $m\angle 6 + m\angle 8 \stackrel{?}{=} m\angle 2 + m\angle 3$
 $36 + 36 \quad 90$
 72

19. $m\angle 9 \stackrel{?}{=} 3(m\angle 6)$
 $180 - 36 \quad 3(36)$
 $144 \quad 108$

20. $m\angle 2 + m\angle 3 \stackrel{?}{=} m\angle 1$
 $90 \quad 90$

