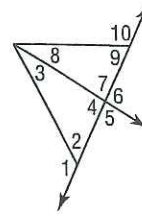


5-2 Practice

Inequalities and Triangles

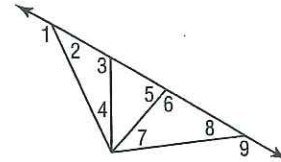
Determine which angle has the greatest measure.

1. $\angle 1, \angle 3, \angle 4$
2. $\angle 4, \angle 8, \angle 9$
3. $\angle 2, \angle 3, \angle 7$
4. $\angle 7, \angle 8, \angle 10$



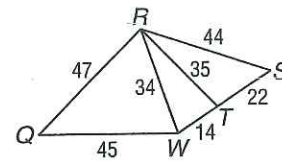
Use the Exterior Angle Inequality Theorem to list all angles that satisfy the stated condition.

5. all angles whose measures are less than $m\angle 1$
6. all angles whose measures are less than $m\angle 3$
7. all angles whose measures are greater than $m\angle 7$
8. all angles whose measures are greater than $m\angle 2$



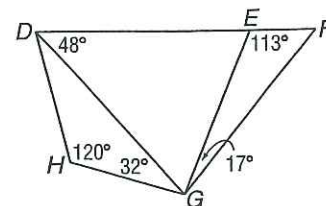
Determine the relationship between the measures of the given angles.

9. $m\angle QRW, m\angle RWQ$
10. $m\angle RTW, m\angle TWR$
11. $m\angle RST, m\angle TRS$
12. $m\angle WQR, m\angle QRW$

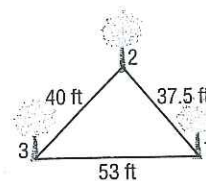


Determine the relationship between the lengths of the given sides.

13. $\overline{DH}, \overline{GH}$
14. $\overline{DE}, \overline{DG}$
15. $\overline{EG}, \overline{FG}$
16. $\overline{DE}, \overline{EG}$



17. **SPORTS** The figure shows the position of three trees on one part of a Frisbee™ course. At which tree position is the angle between the trees the greatest?



5-2

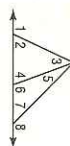
Skills Practice

Inequalities and Triangles

NAME _____ DATE _____ PERIOD _____

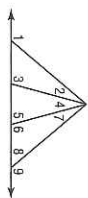
Determine which angle has the greatest measure.

- 1. $\angle 1$, $\angle 3$, $\angle 4$ 2. $\angle 4$, $\angle 5$, $\angle 7$
- $\angle 1$ $\angle 4$
- 3. $\angle 2$, $\angle 3$, $\angle 6$ 4. $\angle 5$, $\angle 6$, $\angle 8$
- $\angle 6$ $\angle 8$



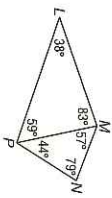
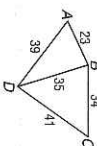
Use the Exterior Angle Inequality Theorem to list all angles that satisfy the stated condition.

- 5. all angles whose measures are less than $m\angle 1$
 $\angle 2$, $\angle 3$, $\angle 4$, $\angle 5$, $\angle 7$, $\angle 8$
- 6. all angles whose measures are less than $m\angle 9$
 $\angle 2$, $\angle 4$, $\angle 6$, $\angle 7$
- 7. all angles whose measures are greater than $m\angle 5$
 $\angle 1$, $\angle 3$
- 8. all angles whose measures are greater than $m\angle 8$
 $\angle 1$, $\angle 3$, $\angle 5$



Determine the relationship between the measures of the given angles.

- 9. $m\angle ABD$, $m\angle BAD$ 10. $m\angle ADB$, $m\angle BAD$
 $m\angle ABD > m\angle BAD$ $m\angle ADB < m\angle BAD$
 - 11. $m\angle BCD$, $m\angle CDB$ 12. $m\angle CBD$, $m\angle CDB$
 $m\angle BCD > m\angle CDB$ $m\angle CBD > m\angle CDB$
- Determine the relationship between the lengths of the given sides.
- 13. \overline{LM} , \overline{LP} 14. \overline{MP} , \overline{MN}
 $LM < LP$ $MP > MN$
 - 15. \overline{MN} , \overline{NP} 16. \overline{MP} , \overline{LP}
 $MN < NP$ $MP < LP$



Lesson 5-2

5-2

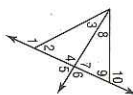
Practice (Average)

Inequalities and Triangles

NAME _____ DATE _____ PERIOD _____

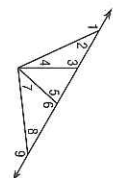
Determine which angle has the greatest measure.

- 1. $\angle 1$, $\angle 3$, $\angle 4$ 2. $\angle 4$, $\angle 8$, $\angle 9$
- $\angle 1$ $\angle 4$
- 3. $\angle 2$, $\angle 3$, $\angle 7$ 4. $\angle 7$, $\angle 8$, $\angle 10$
- $\angle 7$ $\angle 10$



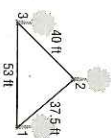
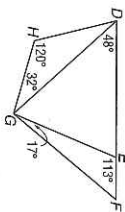
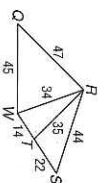
Use the Exterior Angle Inequality Theorem to list all angles that satisfy the stated condition.

- 5. all angles whose measures are less than $m\angle 1$
 $\angle 3$, $\angle 4$, $\angle 5$, $\angle 7$, $\angle 8$
- 6. all angles whose measures are less than $m\angle 3$
 $\angle 5$, $\angle 7$, $\angle 8$
- 7. all angles whose measures are greater than $m\angle 7$
 $\angle 1$, $\angle 3$, $\angle 5$, $\angle 9$
- 8. all angles whose measures are greater than $m\angle 2$
 $\angle 6$, $\angle 9$



Determine the relationship between the measures of the given angles.

- 9. $m\angle QRW$, $m\angle RWQ$ 10. $m\angle RTW$, $m\angle TWR$
 $m\angle QRW < \angle RWQ$ $m\angle RTW < \angle TWR$
 - 11. $m\angle RST$, $m\angle TRS$ 12. $m\angle WQR$, $m\angle QRW$
 $m\angle RST > \angle TRS$ $m\angle WQR < \angle QRW$
- Determine the relationship between the lengths of the given sides.
- 13. \overline{DH} , \overline{GH} 14. \overline{DE} , \overline{DG}
 $DH > GH$ $DE < DG$
 - 15. \overline{EG} , \overline{FG} 16. \overline{DE} , \overline{EG}
 $EG < FG$ $DE > EG$



Answers (Lesson 5-2)