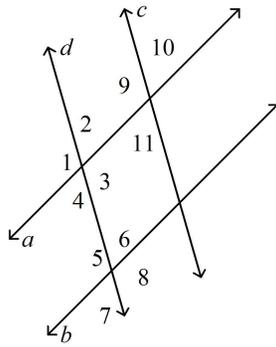


Geometry Unit 3 Study Guide

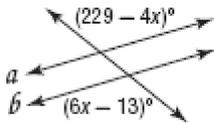
Given the following information, determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.

1. $\angle 11 \cong \angle 2$

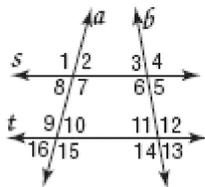


- A) $a \parallel b$; congruent corresponding angles
- B) $c \parallel d$; congruent alternate interior angles
- C) $c \parallel d$; congruent corresponding angles
- D) $a \parallel b$; congruent alternate interior angles

2. Draw a triangular prism and label the parallel planes ABC and DEF .
3. Find the value of x so that $a \parallel b$.



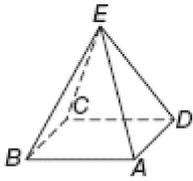
Refer to the figure below to answer the following questions. Identify the special name for each angle pair.



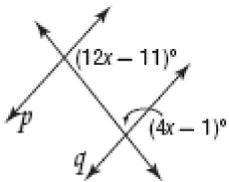
4. $\angle 10$ and $\angle 14$

5. If $\angle 8 \cong \angle 16$, which postulate or theorem justifies that $s \parallel t$?
6. $\angle 1$ and $\angle 5$
7. If $s \parallel t$ by the Alternate Exterior Angles Theorem, which angle pair must be congruent?
- A) $\angle 1$ and $\angle 7$
 - B) $\angle 1$ and $\angle 5$
 - C) $\angle 1$ and $\angle 15$
 - D) $\angle 1$ and $\angle 13$
8. Given $s \parallel t$ and $m\angle 7 = 84$, find $m\angle 10$.
9. Given $\angle 6 \cong \angle 12$, which postulate or theorem justifies that $s \parallel t$?

Refer to the figure below to answer the following questions.

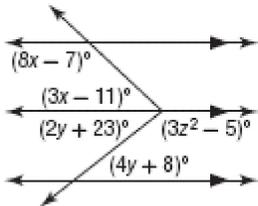


10. Identify the intersection of plane ABD and plane CDE .
11. Find the value of x so that $p \parallel q$.

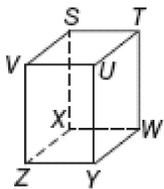


Determine whether \overleftrightarrow{QV} and \overleftrightarrow{RM} are parallel, perpendicular, or neither.

12. $Q(-2, 4.5)$, $V(4, 9)$, $R(-4, -12)$, $M(10, -1.5)$
13. Find the values of x , y , and z in the figure.



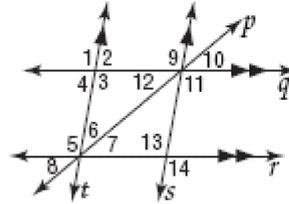
Refer to the figure below to answer the following questions.



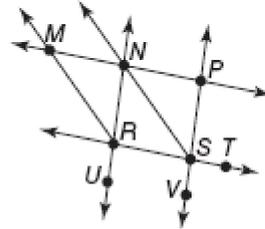
14. Identify the intersection of plane SVX and plane STU .
15. Name a segment skew to \overline{WY} .

Determine the slope of the line that contains the given points.

16. $D(-6, -7)$, $F(12, 23)$
17. If $m\angle 9 = 110$ and $m\angle 8 = 30$, find $m\angle 6$.

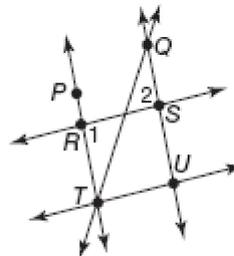


Given the following information, determine which lines, if any, are parallel. Explain HOW you know.



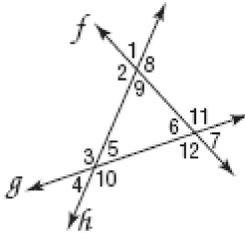
18. $m\angle MRS + m\angle RSN = 180$
19. $\angle RNS \cong \angle PSN$

Given the following information, determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.

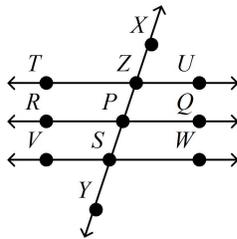


20. $\angle 1 \cong \angle 2$
21. $m\angle RTU + m\angle TUS = 180$
22. $\angle QSR \cong \angle SUT$

Identify each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior angles*.

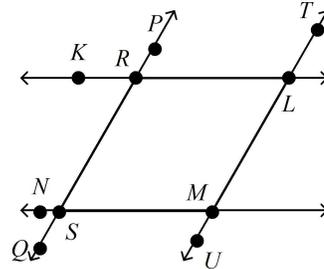


- 23. $\angle 9$ and $\angle 12$
- 24. $\angle 4$ and $\angle 11$
- 25. $\angle 2$ and $\angle 3$
- 26. Write an equation of the line that is perpendicular to $3x - 4y = 9$ and contains $(-4, -5)$.
- 27. In the figure, $m\angle RPZ = 95$ and $\overleftrightarrow{TU} \parallel \overleftrightarrow{RQ} \parallel \overleftrightarrow{VW}$. Find the measure of angle WSP .



- A) 85
- B) 75
- C) 65
- D) 95

- 28. In the figure, $m\angle NML = 120$, $\overleftrightarrow{PQ} \parallel \overleftrightarrow{TU}$ and $\overleftrightarrow{KL} \parallel \overleftrightarrow{NM}$. Find the measure of angle PRK .



- A) 40
- B) 100
- C) 120
- D) 60

Write a two-column proof of the theorem.

- 29. If $m\angle GBC + m\angle HGB = 180$, then $\overleftrightarrow{FH} \parallel \overleftrightarrow{AC}$.

