

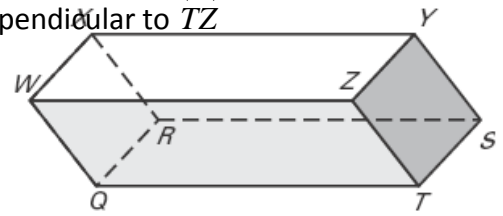
Honors Geometry
Chapter 3 Review

Name _____
Hour _____

In 1 – 5, each segment in the diagram is part of a line. Which line(s) or plane(s) appear to fit the description?

1. Line(s) parallel to \overleftrightarrow{RX}

2. Line(s) perpendicular to \overleftrightarrow{TZ}



3. Line(s) skew to \overleftrightarrow{XY} and containing point S

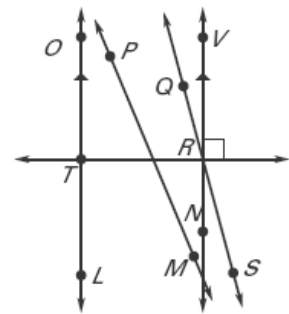
4. Plane(s) perpendicular to plane STZ

5. Plane(s) parallel to plane QRS

In 6-9, use the markings in the diagram.

6. Name a pair of parallel lines.

7. Name a pair of perpendicular lines.



8. Is $\overleftrightarrow{QS} \parallel \overleftrightarrow{PM}$? **Explain.**

9. Is $\overleftrightarrow{OL} \perp \overleftrightarrow{TR}$? **Explain.**

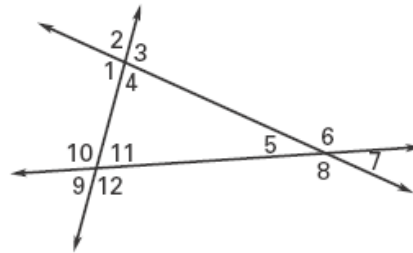
In 10-13, complete the statement. List **ALL** possible correct answers.

10. $\angle 2$ and _____ are corresponding angles.

11. $\angle 4$ and _____ are consecutive interior angles.

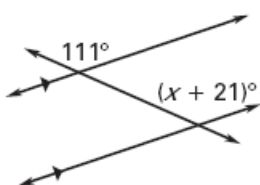
12. $\angle 1$ and _____ are alternate interior angles.

13. $\angle 12$ and _____ are alternate exterior angles.

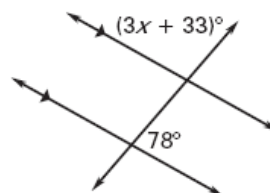


In 14-16, Find the value of x.

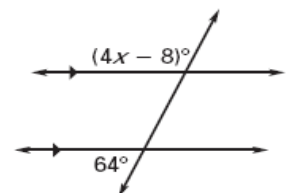
14.



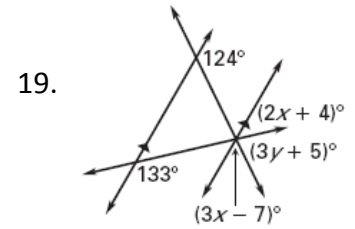
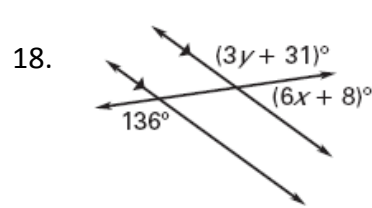
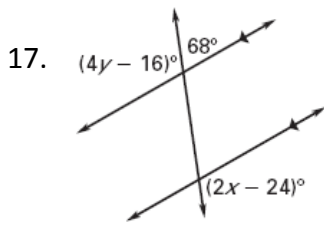
15.



16.



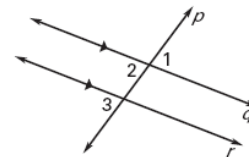
In 17 – 19, Find the values of x and y .



20. Complete the two-column proof.

GIVEN: $q \parallel r$

PROVE: $\angle 1 \cong \angle 3$



Statements

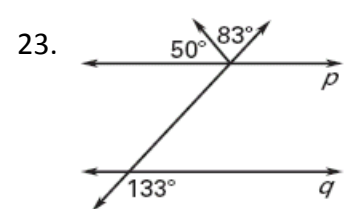
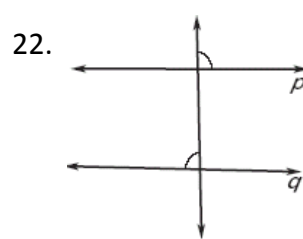
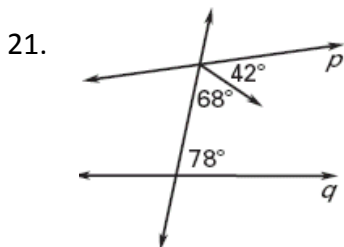
Reasons

1. _____
2. _____
3. _____
4. _____

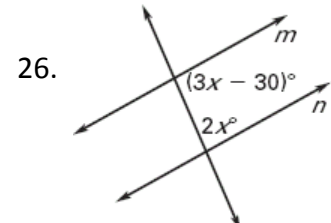
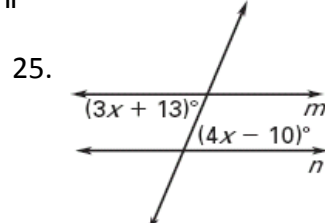
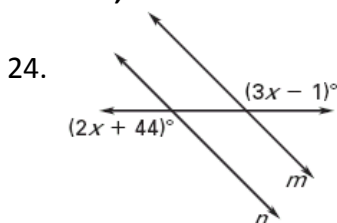
1. _____
2. _____
3. _____
4. _____

In 21 – 23, is there enough information to prove that lines p and q are parallel?

If so, state the postulate or theorem you would use. If not, clarify why not.



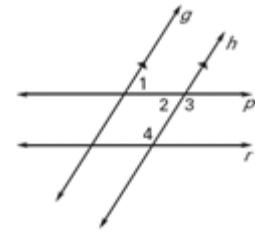
In 24-36, Find the value of x that makes $m \parallel n$.



27. Complete the two column proof.

GIVEN: $g \parallel h$, $\angle 1$ and $\angle 4$ are supplementary

PROVE: $p \parallel r$



Statements	Reasons
1. $g \parallel h$	1. _____
2. $\angle 1 \cong \angle 2$	2. _____
3. $m\angle 1 = m\angle 2$	3. _____
4. $m\angle 1 + m\angle 4 = 180^\circ$	4. _____
5. $m\angle 2 + m\angle 4 = 180^\circ$	5. _____
6. $\angle 2$ and $\angle 4$ are supplementary.	6. _____
7. $p \parallel r$	7. _____

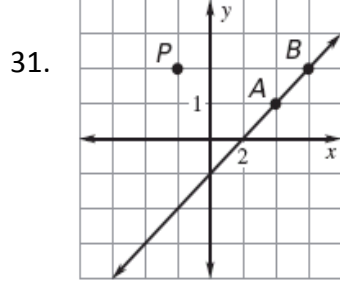
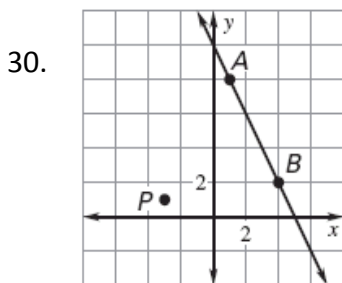
In 28 & 29, Find the slope of Line 1 and Line 2.

Tell whether the lines through the given points are *parallel*, *perpendicular*, or *neither*.

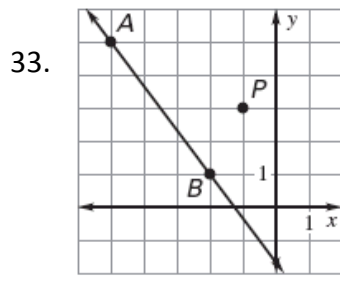
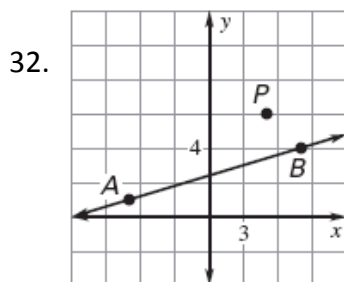
28. Line 1: $(-5, -3), (6, 3)$
Line 2: $(1, 9), (7, -2)$

29. Line 1: $(-3, 2), (2, 12)$
Line 2: $(0, 8), (4, 16)$

In 30 & 31, Graph the line parallel to line AB that passes through point P .



In 32 & 33, Graph the line perpendicular to line AB that passes through point P .



In 34-36, Find the unknown coordinate so the line through the points has the given slope.

34. $(5, y), (2, 2)$; slope = 3

35. $(-1, 1), (5, y)$; slope = $\frac{1}{2}$

36. $(x, 7), (4, -3)$; slope = -1

In 37 & 38, Write an equation of the line that passes through the given point P and has the given slope m .

37. $P(5, 3)$; $m = \frac{-5}{3}$

38. $P\left(\frac{1}{2}, \frac{1}{4}\right)$; $m = \frac{1}{2}$

In 39 & 40, Write an equation of the line that passes through point P and is parallel to the line with the given equation.

39. $P(6, -1)$; $y = 3x + \frac{3}{4}$

40. $P\left(\frac{5}{3}, \frac{11}{4}\right)$; $y = \frac{-6}{5}x + 4$

In 41 & 42, Write an equation of the line that passes through point P and is perpendicular to the line with the given equation.

41. $P\left(\frac{-3}{4}, \frac{16}{3}\right)$; $y = \frac{9}{2}x + 1$

42. $P\left(-2, \frac{7}{2}\right)$; $y = \frac{-1}{4}x + 7$

43. Find the distance between the lines with the equations $y = \frac{2}{7}x + 4$ and $y = \frac{2}{7}x - 2$.