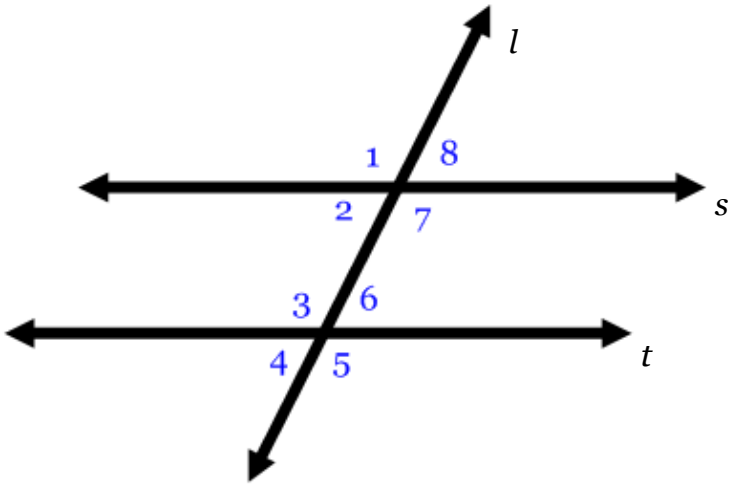
Name: _____ Date: _____

Parallel and Perpendicular Lines Test Review

In the diagram $s \parallel t$. For questions #1 – 10, find each angle measure.



1.] If $m\angle 7 = 100°$, find $m\angle 3$. _____

2.] If $m\angle 7 = 125°$, find $m\angle 6$. _____

3.] If $m\angle 1 = 110°$, find $m\angle 5$. _____

4.] If $m\angle 4 = 30°$, find $m\angle 7$. _____

5.] If $m\angle 3 = 140°$, find $m\angle 8$. _____

6.] If $m\angle 4 = 60°$, find $m\angle 1$. _____

7.] If $m\angle 4 = 55°$, find $m\angle 2$. _____

8.] If $m\angle 7 = 135°$, find $m\angle 4$. _____

9.] If $l \perp t$, find $m\angle 3$. _____

10.] If $m\angle 1 + m\angle 3 = 280°$, find $m\angle 6$. _____

For questions #11 – 17, circle the word that makes the statement true.

11.] If two lines are cut by a transversal so the alternate interior angles are (*congruent, supplementary, complementary*), then the lines are parallel.

12.] If two lines are cut by a transversal so the consecutive interior angles are (*congruent, supplementary, complementary*), then the lines are parallel.

13.] If two lines are cut by a transversal so the corresponding angles are (*congruent, supplementary, complementary*), then the lines are parallel.

14.] If two lines are cut by a transversal so the consecutive exterior angles are (*congruent, supplementary, complementary*), then the lines are parallel.

15.] If two lines are cut by a transversal so the alternate exterior angles are (*congruent, supplementary, complementary*), then the lines are parallel.

16.] If you have a linear pair, then they are (*congruent, supplementary, complementary*).

17.] If you have vertical angles, then they are (*congruent, supplementary, complementary*).

18.] Using the diagram, classify the angle pair as corresponding, alternate interior, alternate exterior, consecutive interior angles, or consecutive exterior angles.

a] ∠6 and ∠2

_____

b] ∠5 and ∠3

_____

c] ∠2 and ∠8

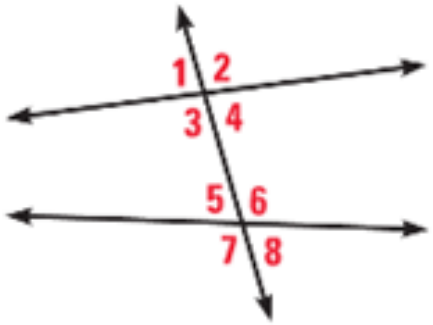
_____

d] ∠2 and ∠7

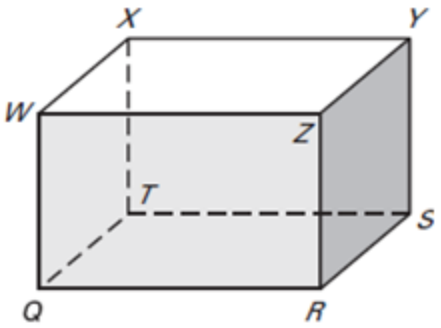
_____

e] ∠4 and ∠5

_____



For questions #19 – 21, think of each segment in the diagram as part of a line. Complete the statement with parallel, skew, or perpendicular.



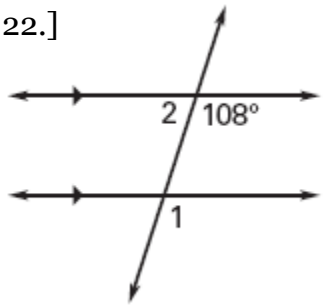
19.] $\overleftrightarrow{QT}$ and $\overleftrightarrow{TS}$ are _____.

20.] $\overleftrightarrow{YZ}$ and $\overleftrightarrow{QT}$ are _____.

21.] $\overleftrightarrow{WX}$ and $\overleftrightarrow{ZR}$ are _____.

For questions #22 – 27, solve for the missing angles.

22.]



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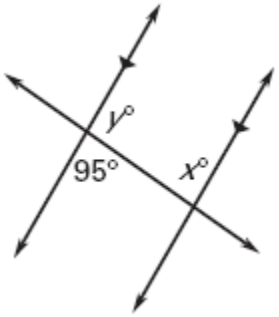

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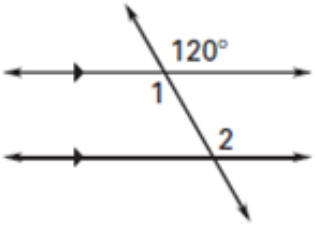

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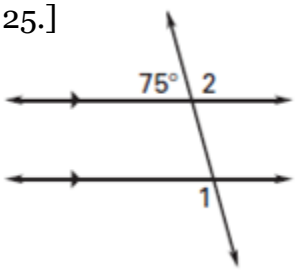

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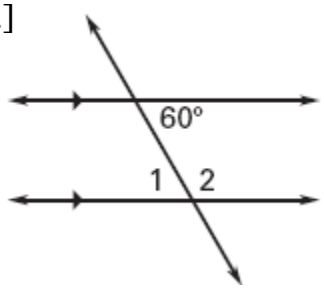

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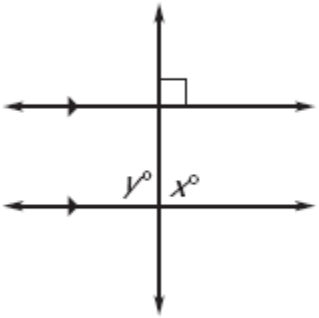
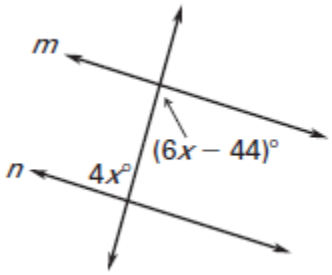


For questions #28 – 33, find the value of *x* and each angle that will make the lines parallel.

28.]



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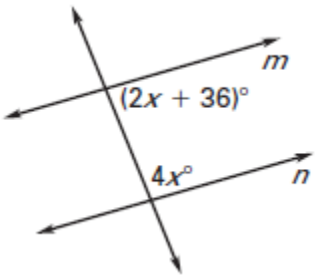

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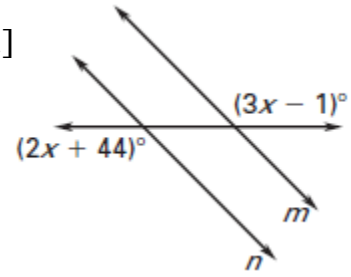
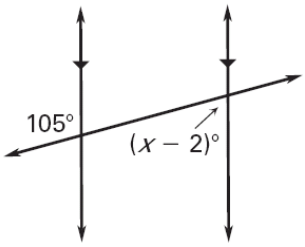


31.]



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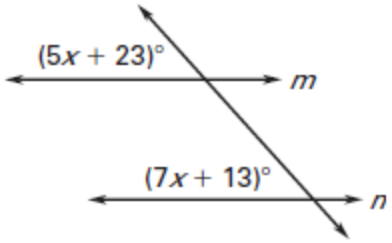
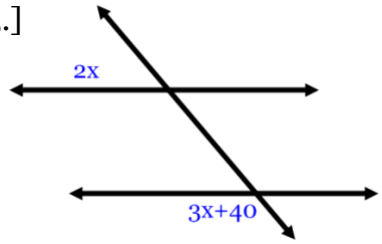
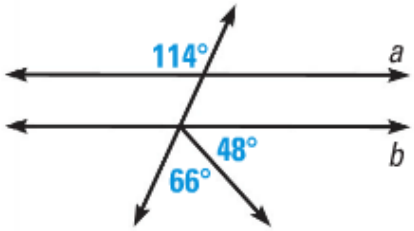


33.]



For questions #34 – 39, determine if the lines can be proven parallel with the given information. State your reasoning.

34.]



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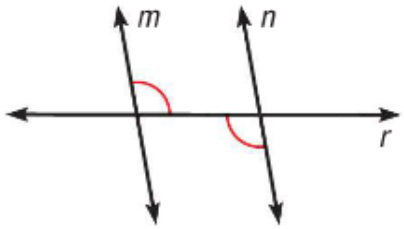

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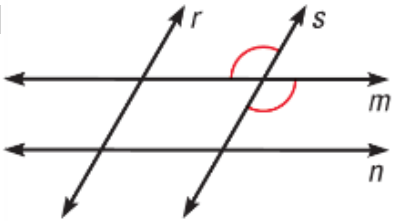

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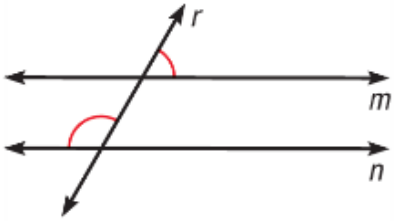
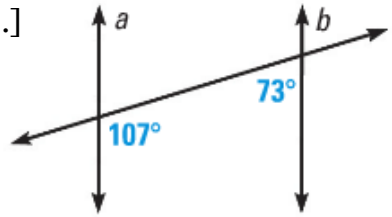
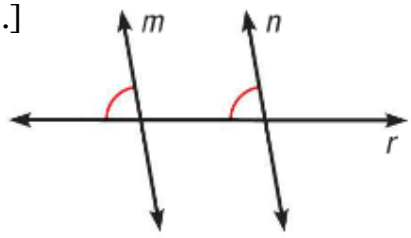


38.]

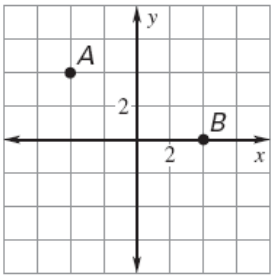


39.]



For questions #40 – 41, find the slope of the line.

40.] Find the slope of $\overleftrightarrow{AB}$.



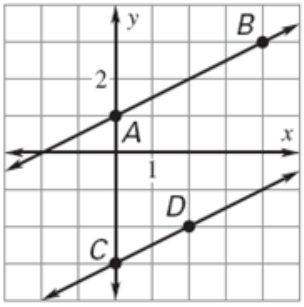
41.] (-6, 3) and (2, 5)

For questions #42 – 45, determine if the lines are parallel, perpendicular, or neither. Verify using slope.

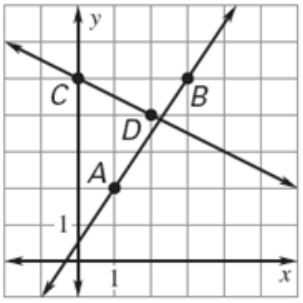
42.] Line 1: (-5, 2), (-3, 5)
Line 2: (-2, 2), (1, 0)

43.] Line 1: (-3, 4), (1, 2)
Line 2: (6, 2), (8, 1)

44.]



45.]



For questions #46 – 47, determine if the lines are parallel, perpendicular or neither.

46.] $l_1: y = \frac{1}{3}x - 2$ and $l_2: 6y = 2x + 12$

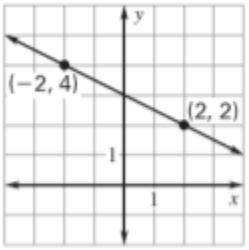
47.] $l_1: 4x - 2y = 6$ and $l_2: 2x + 4y = 6$

For questions #48 – 50, write the equation of the line with the given information.

48.] $P(2, 4)$; $m = \frac{1}{2}$

49.] (1, 3) and (7, 4)

50.]



For questions #51 – 52, write the equation of the line that is parallel to the given line and passes through *P*.

51.] $P(2, 5)$; $y = 4x + 1$

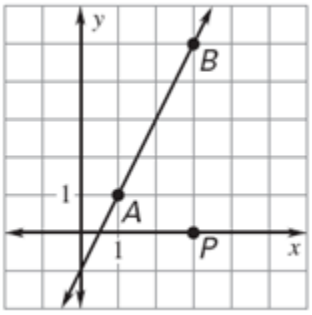
52.] $P(3, -2)$; $y = -\frac{1}{3}x - 3$

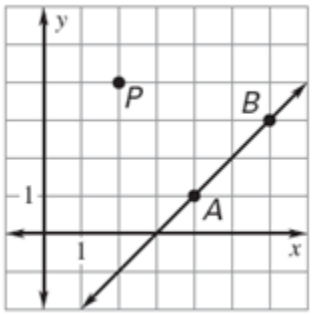
For questions #53 – 54, write the equation of the line that is perpendicular to the given line and passes through *P*.

53.] $P(4, 2)$; $y = \frac{1}{2}x + 4$

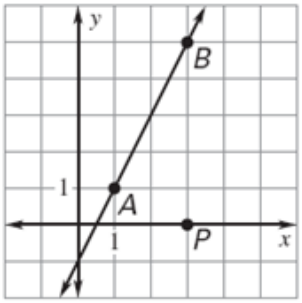
54.] $P(3, -2)$; $y = -\frac{1}{3}x - 3$

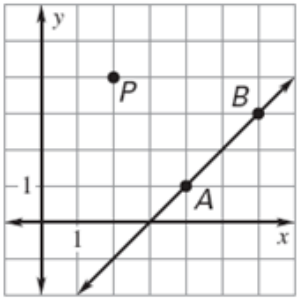
For questions #55 – 56, find and graph the line that is parallel to $\overleftrightarrow{AB}$ and passes through *P*.

55.] 

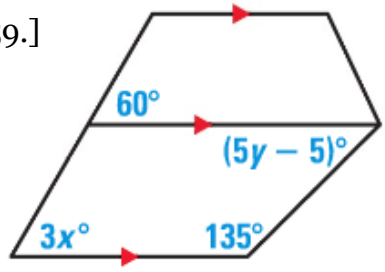
56.] 

For questions #57 – 58, find and graph the line that is perpendicular to $\overleftrightarrow{AB}$ and passes through *P*.

57.] 

58.] 

<u>Challenge Problems:</u>

59.] 

60.]