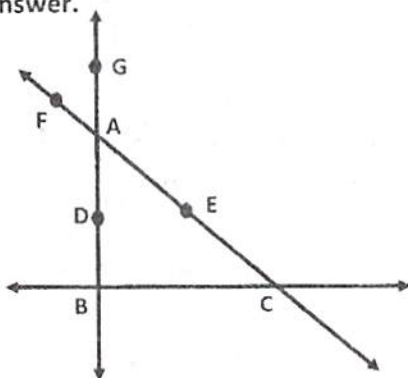


Directions: Match the vocabulary term to the definition or symbolic form.

- | | |
|----------------------------------|--|
| <u>B</u> 1) Line | a) Two angles whose sum is 90° |
| <u>G</u> 2) Line Segment | b) \overleftrightarrow{XY} |
| <u>F</u> 3) Ray | c) $m\angle A + m\angle B = 180^\circ$ |
| <u>E</u> 4) Straight Angle | d) Two angles whose measures is the same |
| <u>C</u> 5) Supplementary Angles | e) An angle whose measure is 180° |
| <u>H</u> 6) Linear Pair | f) \overline{MN} |
| <u>A</u> 7) Complementary Angles | g) Part of a ray or line with two endpoints |
| <u>D</u> 8) Congruent Angles | h) Two angles whose nonadjacent sides form opposite rays |

Directions: Use the picture below to determine if you are allowed to assume each statement. Write a YES or a NO as your answer.



YES 9) Points D, A, & G are collinear

YES 10) $\angle DAE \cong \angle GAF$

NO 11) $\triangle ABC$ is a right triangle

YES 12) $\angle FAE$ is a straight angle

Directions: Complete each algebraic two-column proof.

13) Given: $6 = \frac{2x-6}{3}$

Prove: $x = 12$

Statements	Reasons
1) $6 = \frac{2x-6}{3}$	1) Given
2) $18 = 2x - 6$	2) Mult. Prop. =
3) $24 = 2x$	3) Add. Prop. =
4) $12 = x$	4) Div. Prop. =
5) $x = 12$	5) Sym. Prop =

14) Given: $y = mx + b$

Prove: $m = \frac{y-b}{x}$

Statements	Reasons
1) $y = mx + b$	1) Given
2) $y - b = mx$	2) Subt. Prop. =
3) $\frac{y-b}{x} = m$	3) Div. Prop. =
4) $m = \frac{y-b}{x}$	4) Sym. Prop. =

Directions: In the figure, $a \parallel b$. Answer each question. * Remember, pictures are NOT drawn to scale!

15) If $m\angle 1 = (2x + 25)^\circ$ & $m\angle 5 = (3x - 37)^\circ$, what is $m\angle 3$?

$\angle 1 \cong \angle 5$ b/c Corr. \angle 's post.

$$m\angle 3 = 31^\circ$$

16) If $m\angle 6 = (6x^2)^\circ$ and $m\angle 4 = (14x^2)^\circ$, what is $m\angle 4$?

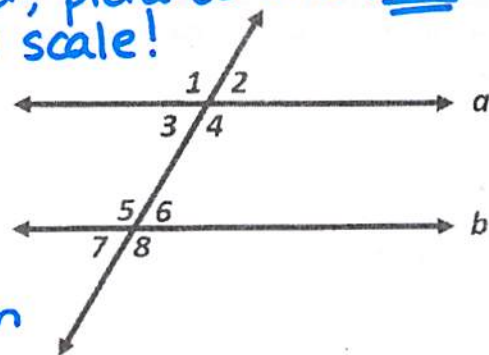
$m\angle 6 + m\angle 4 = 180^\circ$ b/c same side int. \angle 's thm

$$m\angle 4 = 126^\circ$$

17) If $m\angle 4 = (-x + 60)^\circ$ & $m\angle 5 = (x^2 + x - 20)^\circ$, what is $m\angle 6$?

$\angle 4 \cong \angle 5$ b/c alt. int. \angle 's thm

$$m\angle 6 = 128^\circ \text{ or } m\angle 6 = 110^\circ$$



18) What is the angle relationship between $\angle 1$ & $\angle 2$?

linear pair; supplementary

20) What is the angle relationship between $\angle 5$ & $\angle 8$?

vertical \angle 's; \cong

19) What is the angle relationship between $\angle 7$ & $\angle 2$?

alt. ext. \angle 's; \cong

21) What is the angle relationship between $\angle 3$ & $\angle 5$?

same side int. \angle 's; supplementary

Directions: Use the conditional statement "If two angles are right angles, then the angles are congruent" to find the converse, inverse, and contrapositive. Then find the truth value of each statement and write a biconditional statement if appropriate.

22) T (F) Converse: If 2 \angle 's are \cong , then they are right \angle 's.

23) T (F) Inverse: If 2 \angle 's are not right \angle 's, then they are not \cong .

24) T (F) Contrapositive: If 2 \angle 's are not \cong , then they are not right \angle 's.

25) Biconditional: Cannot write b/c the converse & inverse are false

Directions: Use the Law of Syllogism or the Law of Detachment to make a valid argument. State the law you will use.

26) Conditional: If it is warm outside, then we will go to the beach.

Statement: It is warm outside.

Conclusion: We will go to the beach. Law of Detachment.

27) Conditional: If you do your homework, then you will be better prepared for quizzes and tests. If you are better prepared for quizzes and tests, then you will know more information on these assessments.

Conclusion: If you do your Hw, then you will know more info on quizzes & tests. Law of Syllogism.