

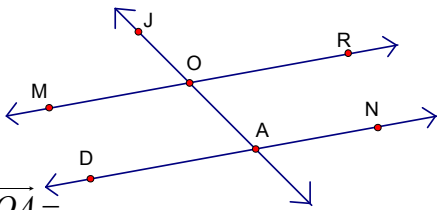
**Geometry Practice Final**

1. Use the conditional statement "If an angle is obtuse, then the angle measures 98" to decide which of the following are true.

- I. The statement is true.
- II. The converse of the statement is true.
- III. The contrapositive of the statement is true.

2. Use the diagram for questions 2 and 3 below.
- a) I only
  - b) II only
  - c) III only
  - d) I and II
  - e) I and III

Use the diagram for questions 2 and 3 below.

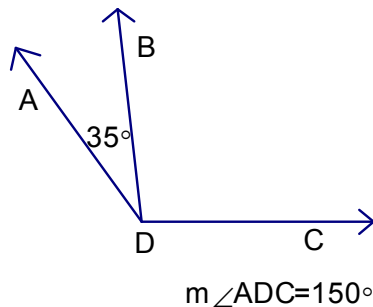


2.  $\overline{OR} \cup \overline{OA} =$
- a)  $\angle ORA$
  - b)  $O$
  - c)  $\angle AOR$
  - d)  $R, O,$  and  $A$
  - e) None of the above

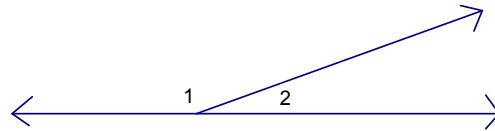
3.  $\overline{JA} \cup \overline{MR} =$
- a)  $\angle JOR$
  - b)  $O$
  - c)  $\angle JOM$
  - d)  $\overline{JO}$
  - e) None of the above

4. Find  $m\angle BDC$ .

- a)  $185^\circ$
- b)  $115^\circ$
- c)  $25^\circ$
- d)  $175^\circ$
- e)  $100^\circ$



5. If  $m\angle 2 = 35^\circ$ , then  $m\angle 1 = ?$



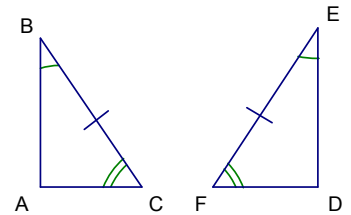
- a)  $35^\circ$
- b)  $70^\circ$
- c)  $90^\circ$
- d)  $145^\circ$
- e)  $55^\circ$

6. The measure of one angle of a triangle is 115. The other two angles are congruent. Find their measures.

- a) 65
- b) 115
- c) 32.5
- d) 35
- e) None of the above

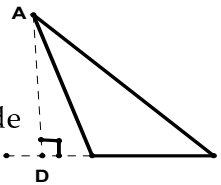
7. Decide which Postulate can be used to prove that the triangles below are congruent.

- a) SSS
- b) SAS
- c) ASA
- d) HL
- e) None of the above



8. For the following figure, identify  $\overline{AD}$  as a(n)

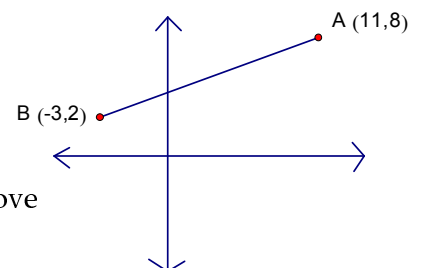
- a) Altitude
- b) Median
- c) Neither a Median nor an Altitude
- d) Both a Median and an Altitude



9. N, the midpoint of  $\overline{AB}$ , has coordinates  $(x, y)$ .

Find  $x+y$ .

- a) 7
- b) 12
- c) 5
- d) 2
- e) None of the above

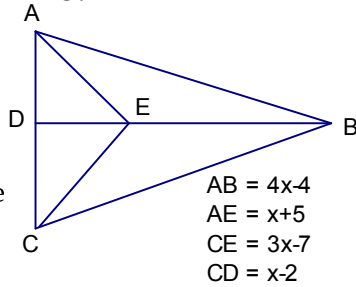


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10. Given:  $\overline{BE}$  is the  $\perp$  bisector of  $\overline{AC}$ .

Find the perimeter of  $\triangle ABC$ .

- a) 18
- b) 48
- c) 6
- d) 3
- e) None of the above



11. In the picture,  $\overline{GH} \perp \overline{HI}$  and  $\overline{GH}$  has a slope of

$\frac{7}{8}$ . What is the slope of  $\overline{HI}$ ?

- a)  $\frac{7}{8}$
- b)  $\frac{8}{7}$
- c)  $-\frac{7}{8}$
- d)  $-\frac{8}{7}$

12. In quadrilateral DEAL,

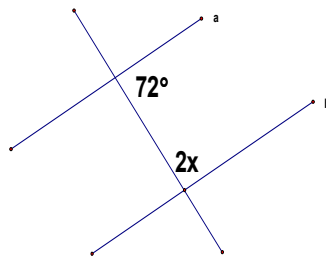
$\angle D$  is supplementary to  $\angle E$ . The quadrilateral could be \_\_\_\_\_?

- I. Trapezoid
- II. Kite
- III. Rhombus

- a) I only
- b) III only
- c) I or III
- d) II or III
- e) I, II, or III

13. Solve for x if a is parallel to b.

- a) 54
- b) 9
- c) 36
- d) 180



14. The intersection of two planes is a

\_\_\_\_\_?

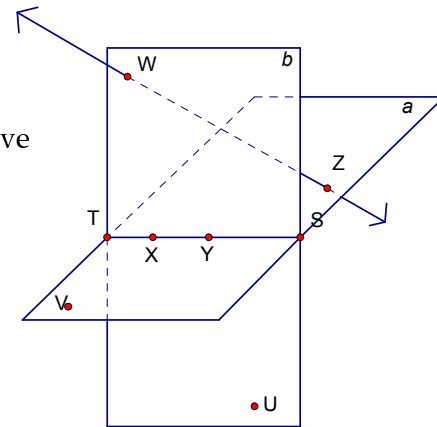
- a) Plane
- b) Point
- c) Line
- d) Both a and c
- e) None of the above

15. How many noncollinear points determine a plane?

- a) 1
- b) 2
- c) 3
- d) Both a and b
- e) None of the above

16. Which of the following sets of points are coplanar?

- a) W, X, Y, Z
- b) W, T, V, Y
- c) U, W, X, Z
- d) S, W, Z
- e) None of the above



17.  $a \cap b =$  \_\_\_\_\_

- a)  $\overline{XT}$
- b) S
- c)  $\overline{WZ}$
- d) X

18.  $\overline{WZ} \cap b =$  \_\_\_\_\_

- a) Z
- b) W
- c)  $\overline{XY}$
- d) y

19. Point I is between W and N. Use the segment

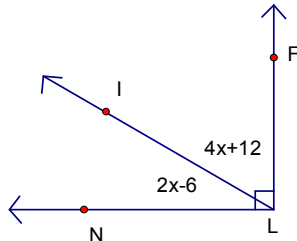
subtraction postulate to solve for  $\overline{IN}$  when  $WN = 4x - 6$ ,  $WI = 2x + 3$ , and  $WN = 22$ .

- a) 28
- b) 17
- c) 7
- d) 5
- e) 23

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20. Two angles are supplementary. One angle has a measure that is three times the other angle. What is the measure of the smaller angle?
- 15
  - 30
  - 45
  - 135
  - 75

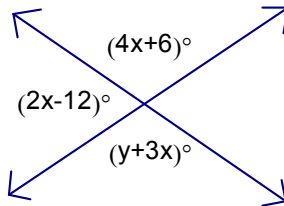
21. Find  $m\angle FLI$



- 18
- 30
- 90
- 84
- None of the above

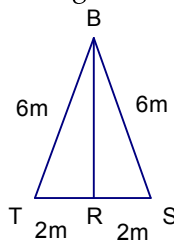
22. Solve for  $y$  in the diagram.

- 31
- 37
- 50
- 130
- 23



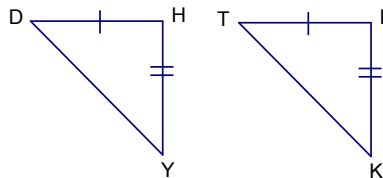
23. Decide which Postulate can be used to prove that the triangles below are congruent.

- SSS
- SAS
- ASA
- HL
- None of the above



24. Decide which Postulate can be used to prove that the triangles below are congruent.

- SSS
- SAS
- ASA
- HL
- None of the above



25. A triangle with no congruent sides is called a(n) \_\_\_\_\_ triangle.

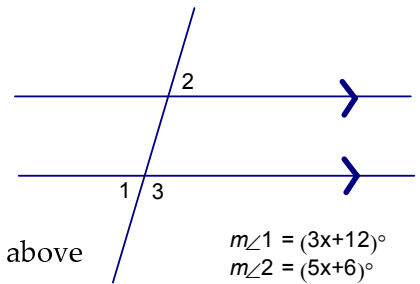
- Scalene
- Equilateral
- Isosceles
- Equiangular
- None of the above

26.  $\overline{ST}$  has endpoints  $(3, -12)$  and  $(-6, 6)$  on the coordinate plane. Find the slope of  $\overline{ST}$ .

- $\frac{1}{9}$
- $-9$
- $-2$
- $-\frac{1}{2}$
- None of the above

27. Find  $m\angle 3$ .

- $3^\circ$
- $177^\circ$
- $159^\circ$
- $21^\circ$
- None of the above



28. Give the most descriptive name a quadrilateral whose consecutive sides measure 15, 18, 15, and 18 \_\_\_\_\_

29. Give the most descriptive name a quadrilateral whose consecutive sides measure 15, 18, 18, 15 \_\_\_\_\_

30. Give the most descriptive name a quadrilateral with consecutive angles of  $30^\circ, 150^\circ, 110^\circ,$  and  $70^\circ$  \_\_\_\_\_

31. Give the most descriptive name a quadrilateral whose diagonals are perpendicular and congruent and bisect each other \_\_\_\_\_

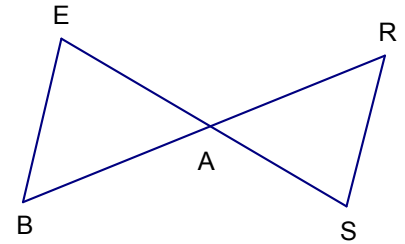
32. Give the most descriptive name a quadrilateral whose congruent diagonals bisect each other and bisect the angles \_\_\_\_\_

Use the two-column proof below to answer questions 33-36.

Given:  $A$  is the midpoint of  $\overline{ES}$

$\overline{ES}$  bisects  $\overline{BR}$

Prove:  $\overline{BE} \cong \overline{RS}$



Statements	Reasons
1. $A$ is the midpoint of $\overline{ES}$	1. Given
2. $\overline{ES}$ bisects $\overline{BR}$	2. Given
3.	3. Definition of Midpoint
4. $\overline{BA} \cong \overline{AR}$	4. Definition of Segment Bisector
5. $\angle EAB \cong \angle RAS$	5.
6. $\triangle EAB \cong \triangle RAS$	6.
7. $\overline{BE} \cong \overline{RS}$	7. CPCTC

33. What is the missing statement for step 3?

- a)  $\angle A \cong \angle A$
- b)  $\overline{EA} \cong \overline{AS}$
- c)  $\overline{BE} \cong \overline{RS}$
- d)  $\overline{EA} \cong \overline{AR}$

34. What is the reason for step 5?

- a) Complementary angles are congruent
- b) All right angles are congruent
- c) Definition of angle bisector
- d) Vertical angles are congruent

35. What is the reason for step 6?

- a) HL (3, 5, 4)
- b) SAS (5, 3, 4)
- c) SAS (3, 5, 4)
- d) ASA (5, 3, 4)

36. What else is true?

- a)  $\overline{ES} \perp \overline{BR}$
- b)  $\overline{BA} \cong \overline{AS}$
- c)  $\angle E \cong \angle R$
- d)  $\overline{EB} \parallel \overline{RS}$