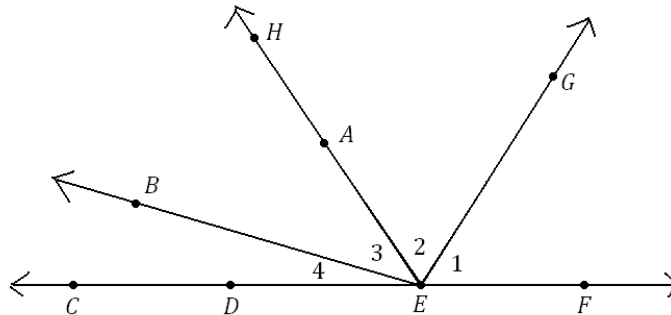


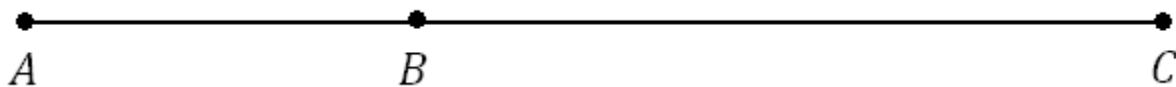
Name _____ Date _____ Period _____

DIRECTIONS: For #1-4, use the diagram to fill in the blanks with the best answers.



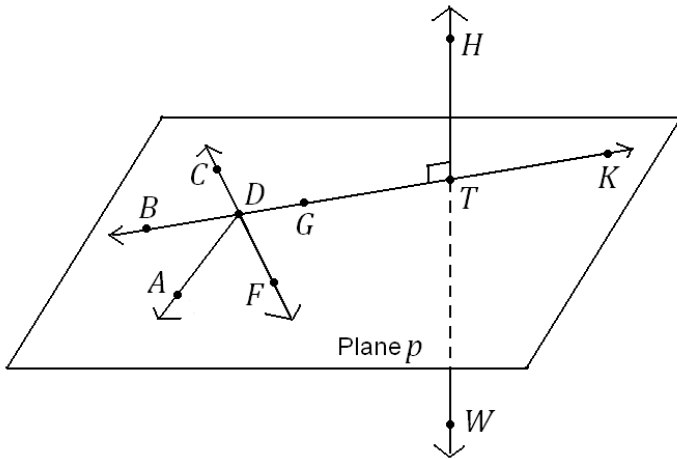
1. $m\angle 3 + m\angle 4 =$ _____
2. $CD + DE =$ _____
3. If \overrightarrow{EH} bisects $\angle GEB$, then _____ \cong _____ .
4. If E is the midpoint of \overline{DF} , then _____ \cong _____ .

DIRECTIONS: Use the following diagram for #5-7.



5. If $AB = 16$ and $BC = 27$, what is AC ? $AC =$ _____
6. If $AB = 9$ and $AC = 24$, what is BC ? $BC =$ _____
7. If $AB = 2x + 7$, $BC = 3x + 11$, and $AC = 6x + 9$, what is x ? $x =$ _____

DIRECTIONS: For #8-16, use the diagram and given information to determine whether the following statements are **TRUE** or **FALSE**. Write the **entire** word in the blanks beside the statements.

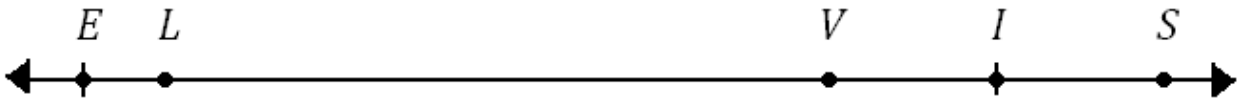


GIVEN: T is the midpoint of \overline{BK} .
 \overline{DA} bisects $\angle BDF$.
 $\angle HTG$ is a right angle.

8. _____ \overrightarrow{TG} is the opposite ray of \overrightarrow{TK} .
9. _____ \overrightarrow{TG} is the opposite ray of \overrightarrow{GT} .
10. _____ $A, F,$ and T are coplanar.
11. _____ $C, D,$ and F are collinear.
12. _____ $m\angle GTH = 90$
13. _____ $GT = KT$.
14. _____ \overleftrightarrow{BK} bisects plane p .
15. _____ $\angle GTH \cong \angle KTH$
16. _____ $m\angle GDF + m\angle BDF = 180$.

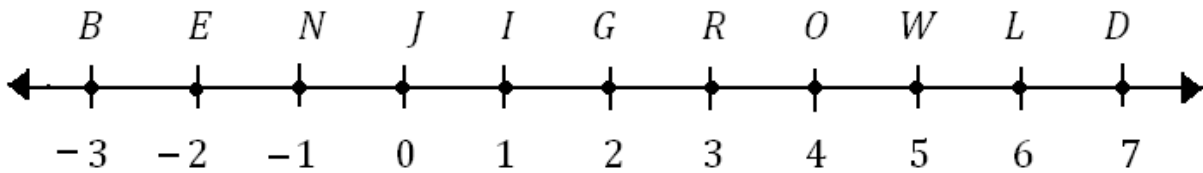
DIRECTIONS: For #17-20, use the line below to find the lengths of the segments.

GIVEN: I is the midpoint of \overline{VS} .
 $EL = 2, SL = 22, EI = 19$



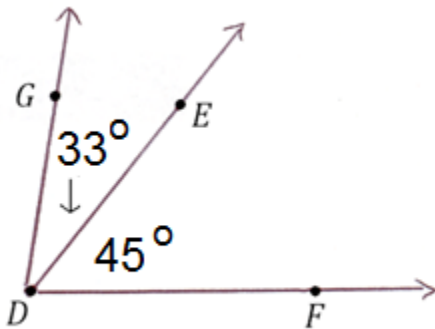
- | | |
|------------------|------------------|
| 17. $LV =$ _____ | 19. $IS =$ _____ |
| 18. $VI =$ _____ | 20. $ES =$ _____ |

DIRECTIONS: Use the line below to answer #21-24.

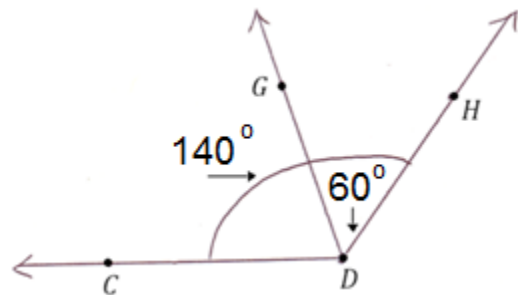


- 21. +3 is the coordinate of which point? _____
- 22. What is the coordinate of E ? _____
- 23. Name the **midpoint** of \overline{EO} . _____
- 24. Name the point on \overrightarrow{BN} with a distance of 4 from R . _____

DIRECTIONS: Use the diagrams accompanying #25-26 to find the angle measures.

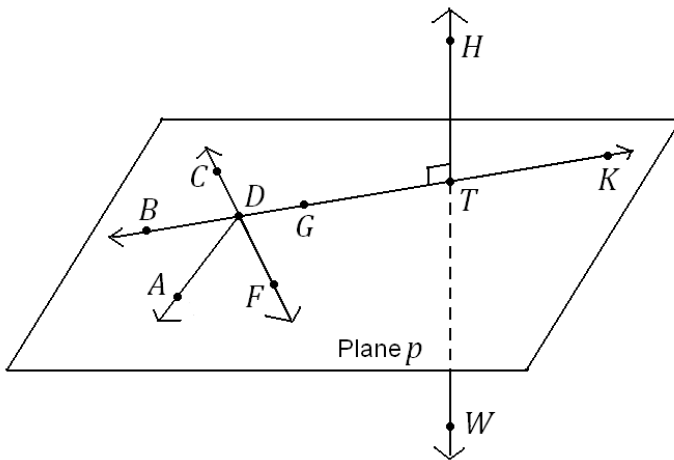


25. $m\angle GDF =$ _____



26. $m\angle CDG =$ _____

DIRECTIONS: For #27-30, use the diagram and given information to answer the questions. **SHOW YOUR WORK** on #27-29!!!



GIVEN: T is the midpoint of \overline{GK} .
 \overrightarrow{DA} bisects $\angle BDF$.
 $\angle HTG$ is a right angle.

27. If $GT = 3x + 8$ and $TK = 5x - 4$, what is x ? $x =$ _____
 $GT?$ $GT =$ _____
 $TK?$ $TK =$ _____

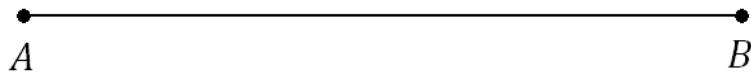
28. If $GT = x + 7$ and $GK = 3x - 4$, what is x ? $x =$ _____
 $GT?$ $GT =$ _____
 $GK?$ $GK =$ _____

29. If $m\angle ADF = 5x + 5$ and $m\angle ADB = 4x + 16$,
 what is x ? $x =$ _____
 $m\angle ADF?$ $m\angle ADF =$ _____

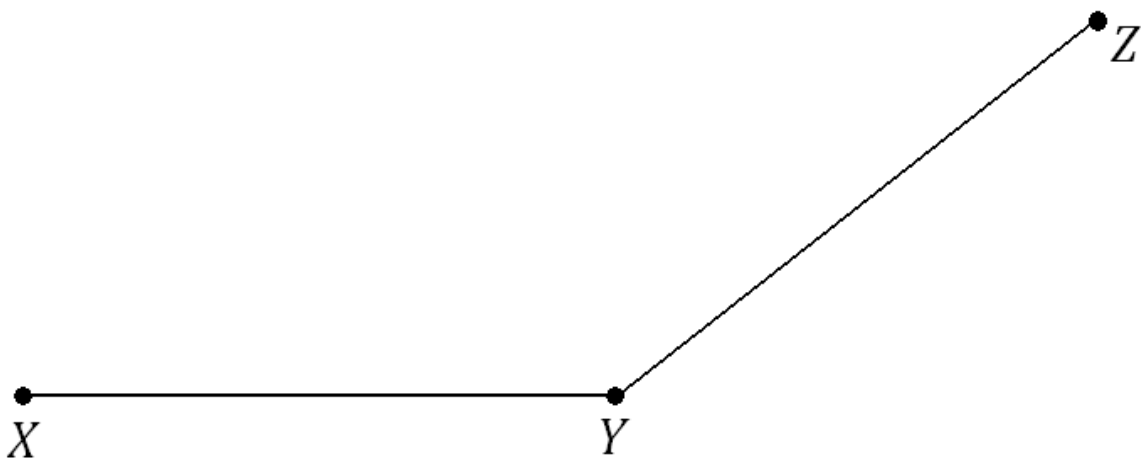
30. If $\angle FDG$ is a right angle, what is $m\angle ADF$? $m\angle ADF =$ _____

DIRECTIONS: Use a compass and a straightedge to accomplish the constructions in #31-32.

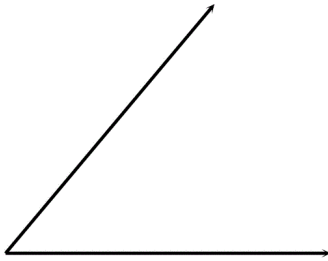
- 31.** Bisect the following segment. Label the midpoint as the point M .
SHOW ALL WORK.



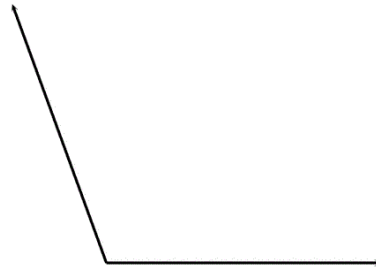
- 32.** Bisect the following angle. Label the ray as \overrightarrow{YM} .
SHOW ALL WORK.



DIRECTIONS: Use a protractor for #33-34. Measure to the nearest degree and write the answers in the provided blanks.



33. _____



34. _____

DIRECTIONS: Use a protractor to create angles with the measures provided in #35-36.

35. 35° angle

36. 120° angle