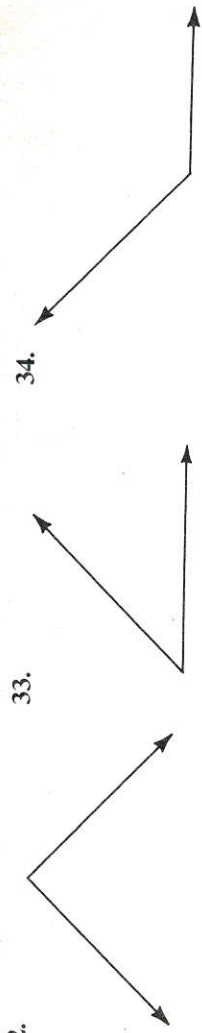


Estimate the measure of each angle.



32. 34.

State an equation or inequality that describes $m\angle A$ if $\angle A$ is the type of angle named.

35. right 36. straight 37. acute 38. obtuse

Written Exercises

A 1. Name the vertex of $\angle 5$. 2. Name the sides of $\angle 4$.

State another name for the angle.

3. $\angle 1$ 4. $\angle 3$ 5. $\angle 5$
 6. $\angle ALD$ 7. $\angle AST$ 8. $\angle LES$

State whether the angle appears to be acute, right, obtuse, or straight.

9. $\angle 2$ 10. $\angle LAS$ 11. $\angle ATL$
 12. $\angle S$ 13. $\angle LTS$ 14. $\angle EDT$

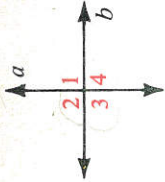
Complete.

15. $m\angle 1 + m\angle 2 = m\angle ?$
 16. $m\angle MKN - m\angle 2 = m\angle ?$
 17. If $m\angle 1 = m\angle 2$, then $? \text{ bisects } ?$.
 18. If \overline{KP} bisects $\angle MKN$, then $? \text{ bisects } ?$.
 19. $m\angle LNK + m\angle KNP = ?$
 20. $m\angle LKM = m\angle LKP + m\angle ?$
 $= m\angle ? + m\angle ? + m\angle ?$

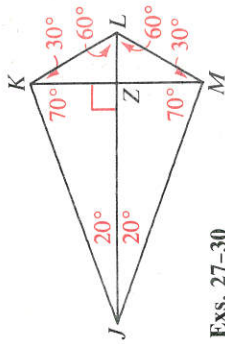
Without measuring, sketch each angle. Then use a protractor to check your accuracy.

B 21. 90° angle 22. 45° angle 23. 150° angle 24. 10° angle
 25. Using a ruler, draw a large triangle. Then use a protractor to find the approximate measure of each angle and compute the sum of the three measures. Repeat this exercise for a triangle with different shape. Did you get the same result?

26. Find $m\angle 2$, $m\angle 3$, and $m\angle 4$ if the measure of $\angle 1$ is:
 a. 90 b. 93 c. x



27. Name four right angles.
 28. Name nine acute angles.
 29. Name three obtuse angles and give their measures.
 30. Name a pair of congruent obtuse angles.



Exs. 27-30

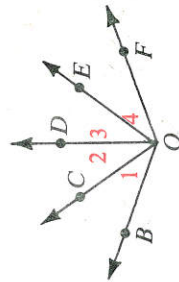
31. Draw three angles, $\angle AOB$, $\angle BOC$, and $\angle AOC$, for which it is *not* true that $m\angle AOB + m\angle BOC = m\angle AOC$.

32. \overline{OC} bisects $\angle BOD$, \overline{OD} bisects $\angle COE$, and $m\angle BOC = 33$. Find $m\angle BOE$.

33. \overline{OD} bisects $\angle BOF$, $\angle 1 \cong \angle 2$, $m\angle 2 = 34$, and $m\angle 3 = 37$. Find $m\angle 4$.

34. $m\angle 1 = x$, $m\angle COE = 2x - 5$, and $m\angle BOE = 100$. Find the value of x .

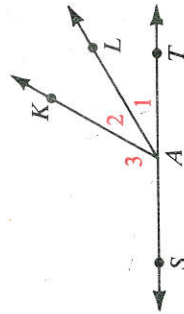
Exs. 32-34



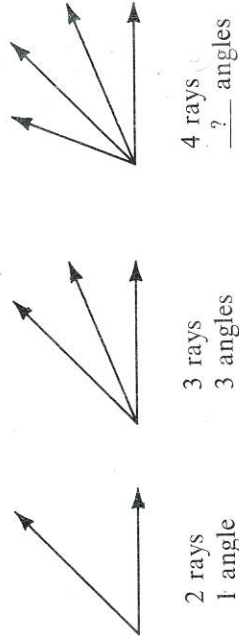
\overline{AL} bisects $\angle KAT$. Find the value of x .

35. $m\angle 1 = x$, $m\angle 3 = 4x$
 36. $m\angle 1 = 8x + 3$, $m\angle 2 = 6x + 9$
 37. $m\angle 1 = 5x - 5$, $m\angle 2 = x + 19$
 38. $m\angle 1 = 3x - 7$, $m\angle 3 = 128$

Exs. 35-38



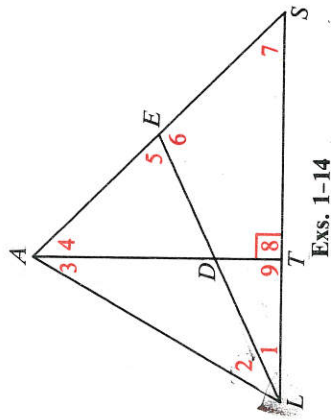
C 39. a. Complete.



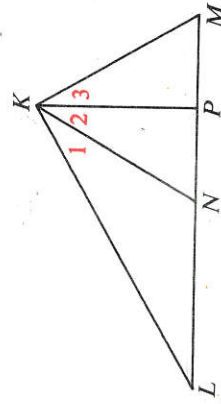
2 rays 3 rays 4 rays
 1 angle 3 angles ? angles

b. Without making a drawing, predict the number of angles formed by six noncollinear rays that have the same endpoint.
 c. Which of the expressions below gives the number of angles formed by n noncollinear rays that have the same endpoint?

$n - 1$ $2n - 3$ $n^2 - 3$ $\frac{n(n-1)}{2}$



Exs. 1-14



Exs. 15-20