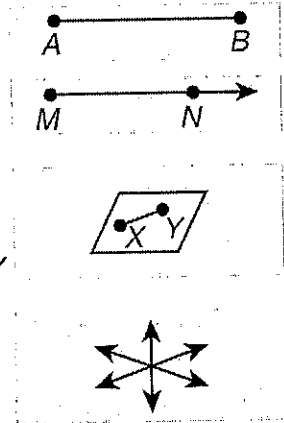




1-1 Understanding Points, Lines, and Planes

Draw and label each of the following.

- a segment containing the points A and B
- a ray with endpoint M that passes through N

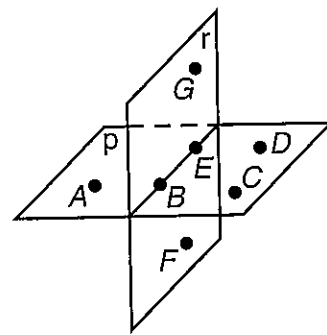
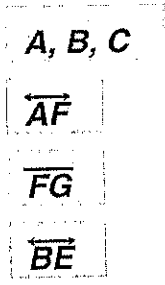


- a plane containing a line segment with endpoints X and Y

- three coplanar lines intersecting in one point.

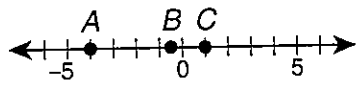
Name each of the following.

- three coplanar points
- a line contained in neither plane
- a segment contained in plane R
- a line contained in both planes



1-2 Measuring and Constructing Segments

Find the length of each segment.



9. \overline{AB}

3.5

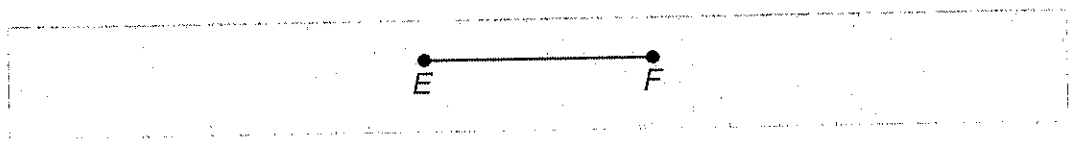
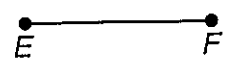
10. \overline{BC}

1.5

11. \overline{AC}

5

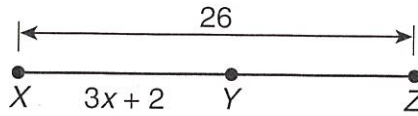
- Sketch, draw, and construct a segment congruent to \overline{EF} .



13. B is between A and C . $AC = 24$ and $BC = 11$. Find AB . 13

14. Y is between X and Z .

Find ~~XY~~ . YZ



~~14~~ $-3x + 24$

M is the midpoint of \overline{AB} . $AM = 9x - 6$, and $BM = 6x + 27$.

15. Find x .

11

16. Find AM .

93

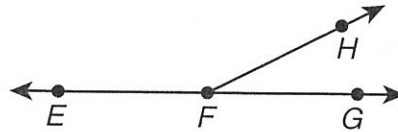
17. Find BM .

93

1-3 Measuring and Constructing Angles

18. Name all the angles in the diagram.

$\angle EFG, \angle EFH, \angle HFG$



Classify each angle by its measure.

19. $m\angle XYZ = 89^\circ$

acute

20. $m\angle PQR = 150^\circ$

obtuse

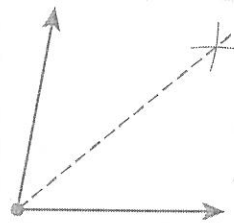
21. $m\angle BRZ = 90^\circ$

right

22. \overline{MT} bisects $\angle LMP$, $m\angle LMT = (3x + 12)^\circ$, and $m\angle TMP = (6x - 24)^\circ$. Find $m\angle LMP$.

96°

23. Use a protractor and a straightedge to draw an 80° angle. Then bisect the angle.



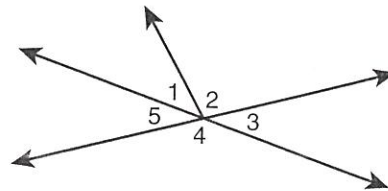
1-4 Pairs of Angles

Tell whether the angles are only adjacent, adjacent and form a linear pair, or not adjacent.

24. $\angle 2$ and $\angle 3$ only adjacent

adjacent and form a linear pair

25. $\angle 3$ and $\angle 4$



26. $\angle 3$ and $\angle 1$ not adjacent

If $m\angle A = (7x - 12)^\circ$, find the measure of each of the following.

27. supplement of $\angle A$

$192 - 7x$

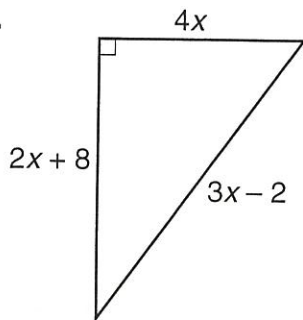
28. complement of $\angle A$

$102 - 7x$

1-5 Using Formulas in Geometry

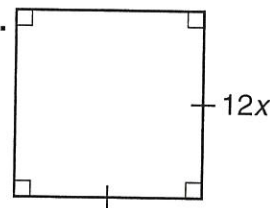
Find the perimeter and area of each figure.

29.



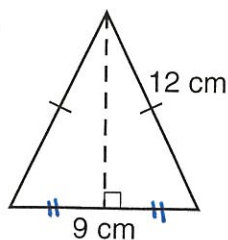
$P = 9x + 6; A = 4x^2 + 16x$

30.



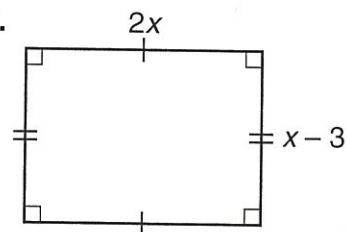
$P = 48x; A = 144x^2$

31.



$P = 33 \text{ cm}; A = 50.06 \text{ cm}^2$

32.



$P = 6x - 6; A = 2x^2 + 6x$

$2x^2 - 6x$

33. Find the circumference and area of a circle with radius 9 in. Use the π key on your calculator and round to the nearest tenth.

$C \approx 56.5 \text{ in.}; A \approx 254.5 \text{ in}^2$

1-6 Midpoint and Distance in the Coordinate Plane

34. Find the coordinates of the midpoint of \overline{AB} with endpoints $A(-2, 6)$, and $B(-4, -1)$.

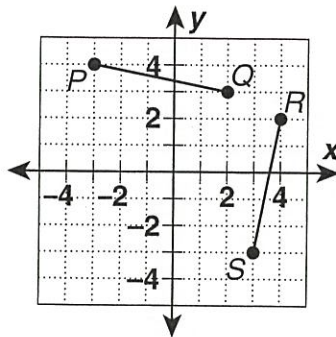
$(-3, 2.5)$

35. S is the midpoint of \overline{RT} , R has coordinates $(-4, -3)$ and S has coordinates $(3, 5)$. Find the coordinates of T .

$(10, 13)$

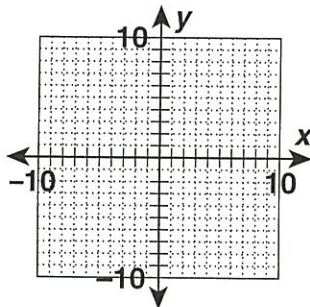
36. Using the distance formula, find PQ and RS to the nearest tenth. Then determine if $\overline{PQ} \cong \overline{RS}$.

$\sqrt{26} \approx 5.1$; yes; $\overline{PQ} \cong \overline{RS}$



37. Using the Distance Formula and the Pythagorean Theorem, find the distance, to the nearest tenth, from $M(4, -3)$ to $N(-5, 2)$.

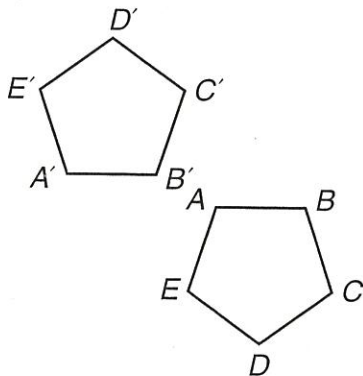
$\sqrt{106} \approx 10.3$



1-7 Transformations in the Coordinate Plane

Identify the transformation. Then use arrow notation to describe the transformation.

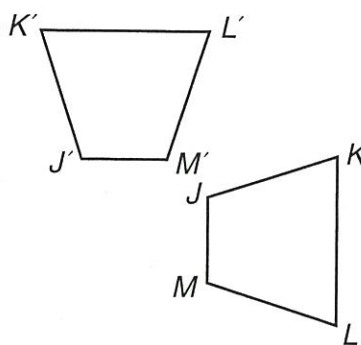
38.



reflection: $ABCDE \rightarrow A'B'C'D'E'$

or translation

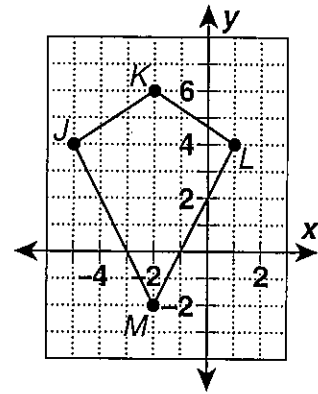
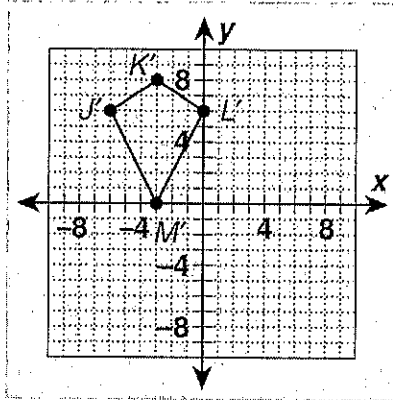
39.



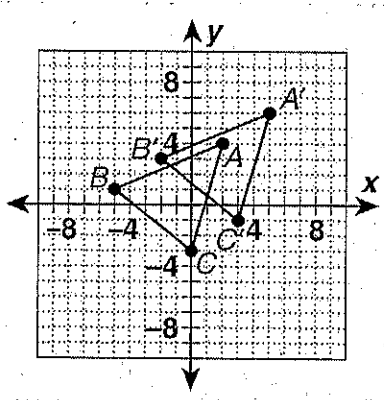
rotation 90° ; $JKLM \rightarrow J'K'L'M'$

40. Find the coordinates for the image of figure $JKLM$ after the translation $(x, y) \rightarrow (x - 1, y + 2)$. Graph the image.

$J'(-6, 6)$,
 $K'(-3, 8)$, $L'(0, 6)$,
 $M'(-3, 0)$



41. A figure has vertices at $A(2, 4)$, $B(-5, 1)$ and $C(0, -3)$. After a transformation, the image of the figure has vertices at $A'(5, 6)$, $B'(-2, 3)$, and $C'(3, -1)$. Graph the preimage and image. Then, identify the transformation.



Transformation: $(x, y) \rightarrow$
 $(x + 3, y + 2)$