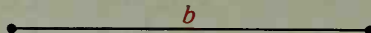
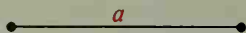


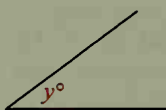
## Written Exercises

On your paper, draw two segments roughly like those shown. Use these segments in Exercises 1–4 to construct a segment having the indicated length.



- A**
- $a + b$
  - $b - a$
  - $3a - b$
  - $a + 2b$
  - Using any convenient length for a side, construct an equilateral triangle.
  - Construct a  $30^\circ$  angle.
    - Construct a  $15^\circ$  angle.
  - Draw any acute  $\triangle ACU$ . Use a method based on the SSS Postulate to construct a triangle congruent to  $\triangle ACU$ .
  - Draw any obtuse  $\triangle OBT$ . Use the SSS method to construct a triangle congruent to  $\triangle OBT$ .
  - Repeat Exercise 7, but use the SAS method.
  - Repeat Exercise 8, but use the ASA method.

On your paper, draw two angles roughly like those shown. Then for Exercises 11–14 construct an angle having the indicated measure.



- $x + y$
  - $x - y$
  - $\frac{3}{4}x$
  - $180 - 2y$
- B**
- Draw any acute triangle. Bisect each of the three angles.
    - Draw any obtuse triangle. Bisect each of the three angles.
    - What do you notice about the points of intersection of the bisectors in parts (a) and (b)?
  - Construct a six-pointed star using the following procedure.
    - Draw a ray,  $\overrightarrow{AB}$ . On  $\overrightarrow{AB}$  mark off, in order, points  $C$  and  $D$  such that  $AB = BC = CD$ .
    - Construct equilateral  $\triangle ADG$ .
    - On  $\overline{AG}$  mark off points  $E$  and  $F$  so that both  $AE$  and  $EF$  equal  $AB$ .
    - On  $\overline{GD}$  mark off points  $H$  and  $I$  so that both  $GH$  and  $HI$  equal  $AB$ .
    - To complete the star, draw the three lines  $\overleftrightarrow{FH}$ ,  $\overleftrightarrow{EB}$ , and  $\overleftrightarrow{CI}$ .

Construct an angle having the indicated measure.

- 120
- 150
- 165
- 45
- Draw any  $\triangle ABC$ . Construct  $\triangle DEF$  so that  $\triangle DEF \sim \triangle ABC$  and  $DE = 2AB$ .
- Construct a  $\triangle RST$  such that  $RS:ST:TR = 4:6:7$ .