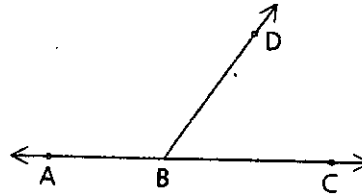


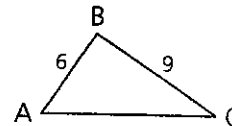
Problem Set A, continued

- 9 $\angle ABD = (3x)^\circ$
 $\angle DBC = x^\circ$
 Find: $m\angle ABD$

**Problem Set B**

- 10 A, K, O, and Y are collinear points. K is between O and A, the length of \overline{AO} added to the length of \overline{AY} is equal to the length of \overline{OY} ($OA + AY = OY$), and A is to the right of O. Draw a diagram that correctly represents this information.
- 11 Draw a diagram in which F is between A and E, F is also between R and S, and A, E, R, and S are noncollinear.
- 12 If $AB = 16$, $BC = 8$, and $AC = 24$, which point is between the other two?

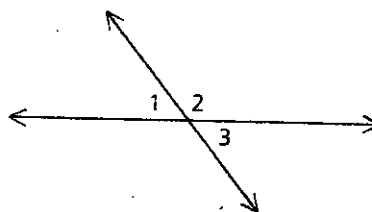
- 13 a AC must be smaller than what number?
 b AC must be larger than what number?



- 14 Q is between P and R on a number line. $P = -8$, and $R = 4$.
- a What do we know about the coordinate of Q?
 b What do we know about the length $PQ + QR$?

Problem Set C

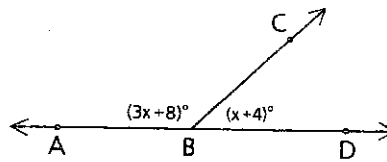
- 15 Given: $m\angle 1 = 2x + 40$,
 $m\angle 2 = 2y + 40$,
 $m\angle 3 = x + 2y$
 Find: $m\angle 1$, $m\angle 2$, and $m\angle 3$



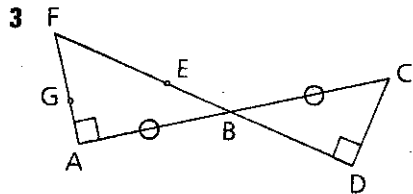
- 16 When Brock Clock was asked what time it was, he said, "Well, the minute hand is pointing directly at one of the twelve numbers on the clock, the hour hand is pointing toward a spot whose nearest number is at least five greater than the number the minute hand is pointing toward, the angle formed by the hands is acute, the sun is shining in the east, and it is not five minutes past the hour." Wow! What time was it?
- 17 To the nearest second, what is the first time after 12:00 that the hour hand and the minute hand of a clock are together?

Problem Set A

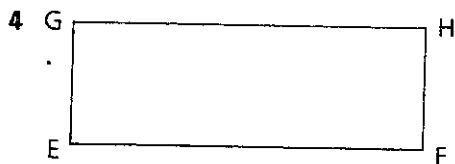
- 1 Find $m\angle ABC$ (the measure of $\angle ABC$).



- 2 Draw a diagram showing four points, no three of which are collinear.



- Name all points collinear with E and F.
- Are G, E, and D collinear? Are F and C collinear?
- Which two segments do the tick marks indicate are congruent?
- Is $\angle A \cong \angle D$?
- Is $\angle F \cong \angle ABF$?
- Where do \overleftrightarrow{AC} and \overleftrightarrow{FE} intersect?
- $\overline{AG} \cap \overline{GF} = \text{?}$
- $\overline{AG} \cup \overline{GF} = \text{?}$
- B lies on a ray whose endpoint is E. Name this ray in all possible ways.
- Name all points between F and D.



- Should we assume that angles E, F, G, and H are right angles? Explain your answer.
 - Should we assume that points E, F, and G are noncollinear? Explain your answer.
- 5 Draw a number line and shade all points that are at or between -5 and 2. Find the length of this shaded segment.

- 6 $\angle ABC$ is a right angle. The ratio of the measures of $\angle ABD$ and $\angle DBC$ is 3 to 2. Find $m\angle ABD$. (Hint: Let $m\angle ABD = 3x$ and $m\angle DBC = 2x$.)

