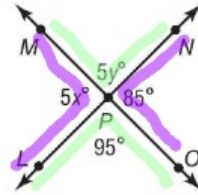


Lesson 1 Homework Practice

Classify Angles

Use the figure at the right to answer Exercises 1–4.

- Name two angles that are vertical.
 $\angle MPL, \angle NPO$ or $\angle MPN, \angle LPO$
- Name two angles that are adjacent.
 $\angle LPM, \angle MPN$ or $\angle MPN, \angle NPO$
 $\angle NPO, \angle OPL$ or $\angle OPL, \angle LPM$
- Find the value of x . **17**
- Find the value of y . **19**



VERTICAL ANGLE TO $\angle MPL$ & $\angle NPO$
 $5x = 85$
 $\frac{5x}{5} = \frac{85}{5}$
 $x = 17$
 $\angle MPL$ AND $\angle LPO$ SUPPLEMENTARY ANGLES (TOTAL 180°)
 $180 - 95 = 5x$
 $85 = 5x$
 $\frac{85}{5} = \frac{5x}{5}$
 $17 = x$

Name each angle in four ways. Then classify the angle as *acute*, *right*, *obtuse*, or *straight*.

5. **VERTEX**
 $\angle 4, \angle S, \angle RST, \angle TSR$; **obtuse** $> 90^\circ$

6. **right** $= 90^\circ$
 $\angle 2, \angle Y, \angle XYZ, \angle ZYX$; **right** $= 90^\circ$

7. **straight** $= 180^\circ$
 $\angle 1, \angle B, \angle CBA, \angle ABC$; **straight** $= 180^\circ$

8. **acute** $< 90^\circ$
 $\angle 3, \angle F, \angle HFG, \angle GFH$; **acute** $< 90^\circ$

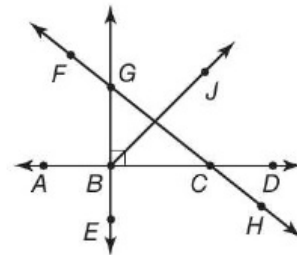
9. **acute** $< 90^\circ$
 $\angle 7, \angle P, \angle JPM, \angle MPJ$; **acute** $< 90^\circ$

10. **right** $= 90^\circ$
 $\angle 6, \angle D, \angle EDF, \angle FDE$; **right** $= 90^\circ$

Use the figure at the right to name the following.

11–14 Sample answers are given.

- two acute angles
 $\angle DCH, \angle JBD$
- two straight angles
 $\angle ABD, \angle EBG$
- two right angles
 $\angle ABE, \angle GBC$
- two obtuse angles
 $\angle FGE, \angle ACH$



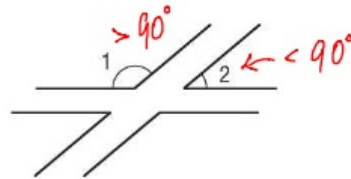
Lesson 1 Problem-Solving Practice

Classify Angles

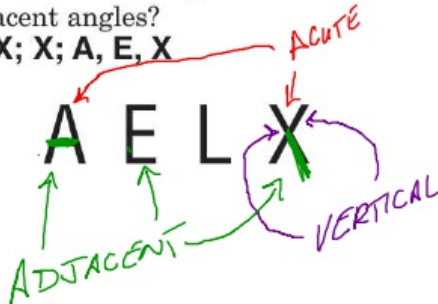
1. CLOCKS The time shown on the clock is 11:05. Starting at this time, approximately what time will it be when the hands form an **obtuse** angle?
Sample answer: about 11:12



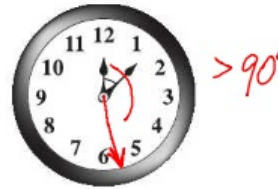
2. AIRPORT The runways at a local airport are sketched in the figure. Classify $\angle 1$ and $\angle 2$ as *acute*, *obtuse*, *right*, or *straight*. **$\angle 1$ is obtuse; $\angle 2$ is acute.**



3. ALPHABET Which of the following letters contain at least one acute angle? Which contain vertical angles? Which contain adjacent angles?
A, X; X; A, E, X



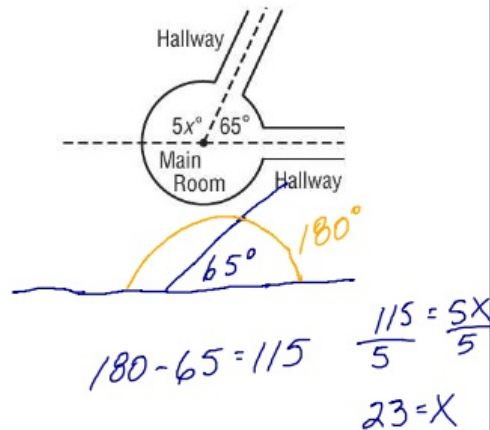
4. CLOCKS The time shown on the clock is 12:07. After 20 minutes have passed, will the angle formed by the hour and minute hands be *acute*, *obtuse*, *right*, or *straight*? **obtuse**



5. BALLET When a ballet dancer's feet are in first position, the heels are touching, and the feet are turned out. A dancer with excellent technique can position his or her feet so that they are nearly in a straight line. Isabella is practicing her technique. Classify the angle her feet form as *acute*, *obtuse*, or *right*.
obtuse



6. ARCHITECTURE The plans for a new aquarium call for 2 hallways of exhibits leading out of a circular main room as shown. What is the value of x ? **23**



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