

# Chapter Review

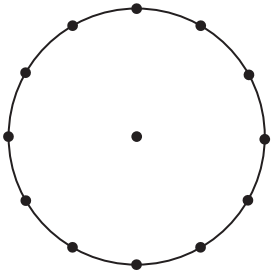
## You will need

- a compass
- a straightedge

1. Write three angle measures that are useful as referents when you estimate angles.

e.g.,  $45^\circ$ ,  $90^\circ$ , and  $180^\circ$

Use the circle diagram to help you answer Questions 2 and 3.



2. Visualize a round pizza. What is the measure of each angle if the pizza is cut into each number of equal pieces?

a) 6  $\underline{60^\circ}$

c) 4  $\underline{90^\circ}$

b) 12  $\underline{30^\circ}$

d) 9  $\underline{40^\circ}$

3. Aidan cut a round pizza into eight equal pieces. Then he bisected one piece. What is the measure of each angle in the two smallest pieces?

$$360^\circ \div 8 = 45^\circ$$

$$\text{half of } 45^\circ = 22\frac{1}{2}^\circ$$

4. Calculate the measure of each angle.

- a) the complement of an angle whose measure is  $23^\circ$

$$90^\circ - 23^\circ = 67^\circ$$

- b) the supplement of an angle whose measure is  $79^\circ$

$$180^\circ - 79^\circ = 101^\circ$$

- c) the third angle in a triangle whose other angles measure  $35^\circ$  and  $66^\circ$

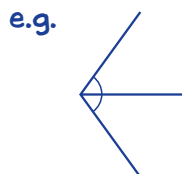
$$180^\circ - (35^\circ + 66^\circ) = 79^\circ$$

- d) the reflex angle around a right angle

$$360^\circ - 90^\circ = 270^\circ$$

5. Sketch an angle for each type. Bisect the obtuse angle.

- a) obtuse angle

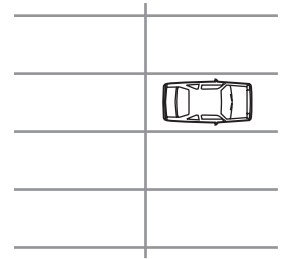


- b) reflex angle



6. A parking lot shows five parallel lines with a transversal. If one angle measures  $90^\circ$ , what can you say about the measures of the other angles?

All the other angles equal  $90^\circ$  because corresponding angles are equal, and each supplementary angle is equal to  $90^\circ$ .



7. Karla is building a fence. She attached the top board to the first two posts. How can she be sure that the two posts are parallel to each other?

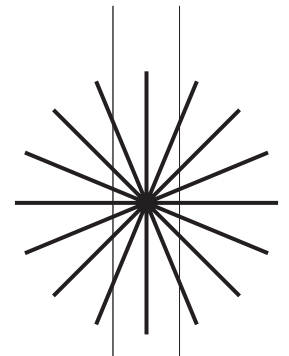
e.g., Measure the angle formed by one post and the top.

Measure the angle formed by the other post and the top.

The two interior angles should be supplementary.

8. Brook says that the two lines in this optical illusion are not parallel. Do you agree or disagree? Explain your thinking.

e.g., Disagree. If you measure with a ruler, the distance between the lines at either end is the same.



9. Determine the measure of each angle. Explain your thinking.

a)  $p = 102^\circ$ ; e.g.,  $\angle p$  and  $\angle 78^\circ$  are supplementary

b)  $q = 58^\circ$ ; e.g.,  $\angle q$  and  $\angle 58^\circ$  are opposite angles

c)  $r = 44^\circ$ ; e.g.,  $\angle 78^\circ$  and  $\angle r + \angle q (58^\circ)$  are interior angles that are supplementary since the vertical lines are parallel

d)  $s = 67^\circ$ ; e.g.,  $\angle s$  and  $\angle 67^\circ$  are corresponding angles

e)  $t = 55^\circ$ ; e.g.,  $\angle t + \angle s (67^\circ) + \angle q (58^\circ)$  are the sum of angles in a triangle

f)  $u = 113^\circ$ ; e.g.,  $\angle u$  and  $\angle 67^\circ$  are supplementary

g)  $v = 125^\circ$ ; e.g.,  $\angle v$  and  $\angle t (55^\circ)$  are supplementary

