Lesson 1 Problem-Solving Practice

Parallel Lines and Angle Relationships

---

1. The symbol below is an equal sign with a slash through it. It is used to represent *not equal to* in math, as in $1 \neq 2$. If $m\angle 1 = 108°$, classify the relationship between $\angle 1$ and $\angle 2$. Then determine $m\angle 2$. Assume the equal sign consists of parallel lines.

a) alternate exterior angles; 108°

b) alternate interior angles; 108°

c) supplementary angles; 72°

d) alternate exterior angles; 72°

2. Arturo is designing a bridge for science class using parallel supports for the top and bottom beam. Determine $m\angle 2$ if $m\angle 1 = 60°$.
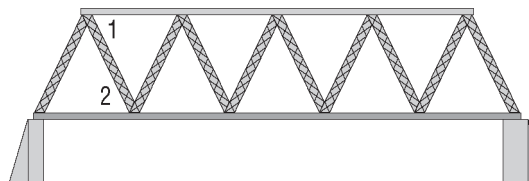

a) 40°

b) 60°

c) 140°

d) 180°

---

3. For cheerleading practice, Kiara must be able to lift her legs so that they are parallel to her outstretched arms. For each side of her body, what is the relationship between the angle formed by her arms and the floor and the angle formed by her legs and the floor?

a) *supplementary angles*

b) *corresponding angles*

c) *alternate exterior angles*

d)*alternate interior angles*

4. In the figure, line m is parallel to line n. If $m\angle 3 = 7x - 10$ and $m\angle 6 = 5x + 10$, What is the measure of $\angle 3$ and $\angle 6$?
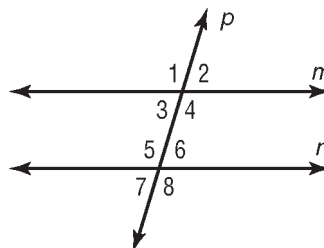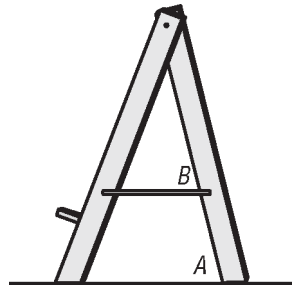

a) 40°

b) 60°

c) 140°

d) 180°

---

5. Refer to the figure in Exercise 4. If
$m\angle 1 = 4x + 40$, and $m\angle 5 = 120°$,
what is the value of x?

a) 20

b) 60

c)120

d)180

6. The drawing below shows the side view
of a drawing easel. The brace is parallel
to the ground. If $m\angle A$ is 82°, what is the
measure of $\angle B$?

a) 98°

b) 112°

c) 84°

d) 82°