Station 1

$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

$d = \sqrt{(4-1)^2 + (7-4)^2}$

The map coordinates of a campground are $(1, 4)$, and the coordinates of a fishing pier are $(4, 7)$. Each unit on the map represents 1 kilometer. If Alejandro walks in a straight line from the campground to the pier, how many kilometers, to the nearest tenth, will he walk?

x_1, y_1 x_2, y_2

$d = \sqrt{(3)^2 + (3)^2}$

$d = \sqrt{9+9}$

$d = \sqrt{18}$

$d \approx 4.2$

(A) 3.5 kilometers   (C) 6.0 kilometers

(B) 4.2 kilometers   (D) 12.1 kilometers

Station 2

Lily conjectures that if a number is divisible by 15, then it is also divisible by 9. Which of the following is a counterexample?

(F) 45   (H) 60

(G) 50   (J) 72

Station 3

Miyoko went jogging on July 25, July 28, July 31, and August 3. If this pattern continues, when will Miyoko go jogging next? *plus 3 days*
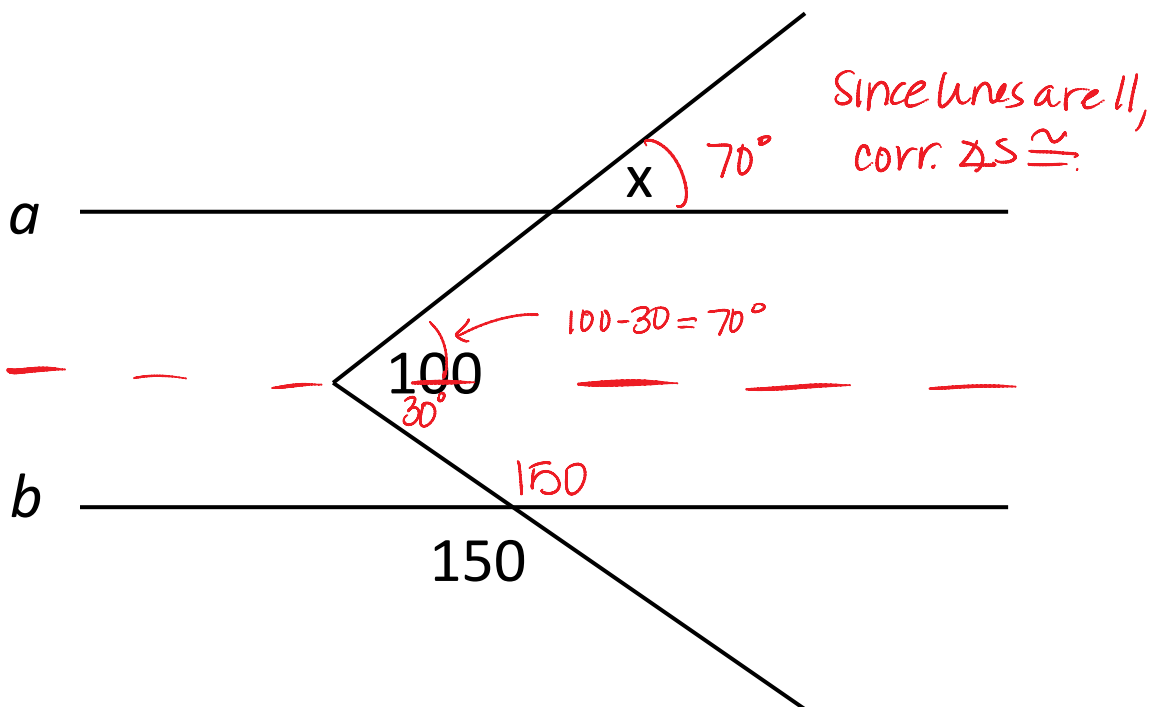
(A) August 5   (C) August 7

(B) August 6   (D) August 8

Station 4

Given a||b. Find x.

x) 70°

Since lines are ||, corr. ∠s ≅.

a

100   ← 100-30 = 70°
30°

150

b

150

Station 5

For the given conditional statement, write the following statements and determine if it is true or false:

Conditional Statement: If two angles are supplementary, then they are congruent. F

a) **Converse Statement:** If 2 ∡s are ≅, then they are supplementary.

b) **Inverse Statement:** If 2 ∡s are NOT supplementary, then they are not ≅

c) **Contrapositive Statement:** If 2 ∡s are NOT ≅, then they are NOT supplementary.

d) **Biconditional Statement:** Two angles are supplementary if and only if they are ≅.

Station 6

The measure of an angle is 6 more than twice the measure of the supplement. Find the measure of the supplement of the angle.

$$x = 2(180 - x) + 6 \qquad 3x = 354 \qquad 180 - 118$$
$$x = 360 - 2x + 6 \qquad x = 118 \qquad = 62°$$

Station 7

Given the following statements, what property do they justify?

a. $94° = 94°$ Reflexive

b. If ∠A is complementary to ∠B and ∠B ≅ ∠C, then ∠C is complementary to ∠B. SUBSTITUTION

c. If ∠GEO ≅ ∠ALG and ∠ALG ≅ ∠MAT, then ∠GEO ≅ ∠MAT. Transitive

d. If ∠RED ≅ ∠DEV, then ∠DEV ≅ ∠RED. Symmetric

Station 8

Law of Syllogism: Decide if the conjecture is valid. If it is INVALID, write the correct conjecture.

Given: If Sally goes to bed early, then she will not get sick. If Sally eats an apple, then her mom will be happy. If her mom is happy, then Sally goes to bed early.
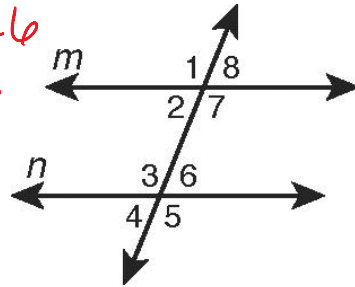
(annotations: B ~S above "bed early"/"not get sick"; A above "apple"; H above "happy"; H above "mom is happy"; B above "bed early")

$B \to \sim S$
$A \to H$
$H \to B$
$B \to \sim S$

$\begin{cases} A \to H \\ H \to B \quad \therefore A \to \sim S \\ B \to \sim S \end{cases}$

Conjecture: If Sally eats an apple, then she will not get sick.

(Valid) or Invalid?!

Station 9

Using the diagram, name a pair of...

a. **Same Side Interior Angles** $\angle 2 \& \angle 3; \angle 7 \& \angle 6$

b. **Alternate Exterior Angles** $\angle 1 \& \angle 5; \angle 8 \& \angle 4$

c. **Corresponding Angles** $\angle 1 \& \angle 3; \angle 2 \& \angle 4; \angle 8 \& \angle 6; \angle 7 \& \angle 5$

d. **Vertical Angles** $\angle 1 \& \angle 7; \angle 2 \& \angle 8, \angle 3 \& \angle 5, \angle 4 \& \angle 6$

(diagram: two parallel lines crossed by transversal; lines labeled m and n, angles 1/8, 2/7 on line m and 3/6, 4/5 on line n)

Station 10

Are the lines parallel, [perpendicular] or neither:

$$5x - 4y = 10 \text{ and } 5y = -4x + 6$$

$-4y = -5x + 10$ 　　　 $y = -\frac{4}{5}x + 6$

$y = \frac{5}{4}x + 10$ 　 **slopes are opp. reciprocals $\Rightarrow \perp$**