

Challenge

Problem Solving Strategy: Logical Reasoning

Use logical reasoning to solve each problem.

1. Sue, Andy, Lu, and Carlos each bought a hobby book. The books cost \$3, \$5, \$6, and \$8. Andy spent \$6. Sue spent less than Lu did. Carlos spent the most. How much did each of them spend?

2. Alexi, Lila, Sarah, and Josh measured their heights. They are 49 inches, 51 inches, 54 inches, and 38 inches tall. Alexi is the tallest. Josh is 49 inches tall. Sarah is taller than Josh. What are their heights?

3. Beth, Maya, Jill, and Di are in line to buy movie tickets. Jill is ahead of Beth. Maya is behind Beth. Di is second. What is their order in line from first to last?

4. Emily, Frank, Gary, and Julie have cats that are black, brown, white, or gray. The cats' names are Buffy, Duffy, Fluffy, and Puffy. Buffy is brown. Emily's cat, Duffy, is not gray. Frank's cat is white, but is not named Puffy. The gray cat belongs to Gary. Which cat belongs to each student, and what is its color?

5. Karen, Leo, Mariah, Olivia, and Pedro bowled scores of 123, 132, 115, 124, and 131. Leo's score is lower than Karen's. Mariah got the highest score. The sum of the digits in Pedro's score is 7. Olivia's score was 8 points lower than another score. What was each friend's bowling score?

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1. Sue, Andy, Lu, and Carlos each bought a hobby book. The books cost \$3, \$5, \$6, and \$8. Andy spent \$6. Sue spent less than Lu did. Carlos spent the most. How much did each of them spend?

Sue: \$3; Andy: \$6; Lu: \$5; Carlos: \$8

2. Alexi, Lila, Sarah, and Josh measured their heights. They are 49 inches, 51 inches, 54 inches, and 38 inches tall. Alexi is the tallest. Josh is 49 inches tall. Sarah is taller than Josh. What are their heights?

Alexi: 54 in.; Lila: 38 in.; Sarah: 51 in.; Josh: 49 in.

3. Beth, Maya, Jill, and Di are in line to buy movie tickets. Jill is ahead of Beth. Maya is behind Beth. Di is second. What is their order in line from first to last?

First: Jill; Second: Di; Third: Beth; Fourth: Maya

4. Emily, Frank, Gary, and Julie have cats that are black, brown, white, or gray. The cats' names are Buffy, Duffy, Fluffy, and Puffy. Buffy is brown. Emily's cat, Duffy, is not gray. Frank's cat is white, but is not named Puffy. The gray cat belongs to Gary. Which cat belongs to each student, and what is its color?

Emily: Duffy (black); Frank: Fluffy (white);

Gary: Puffy (gray); Julie: Buffy (brown)

5. Karen, Leo, Mariah, Olivia, and Pedro bowled scores of 123, 132, 115, 124, and 131. Leo's score is lower than Karen's. Mariah got the highest score. The sum of the digits in Pedro's score is 7. Olivia's score was 8 points lower than another score. What was each friend's bowling score?

Answers may vary. Possible answer given.

Karen: 131; Leo: 123; Mariah: 132; Olivia: 124; Pedro: 115
