Algebra I

Name _____ Date _____

SESSION 1

Two receipts

Three coffees and two teas cost $12. Two coffees and four teas cost $16. Define variables, write both equations, and test a friend's claim that both drinks cost $2.50. Find the two prices and verify them.

Start here if you were away. Start with the first receipt. Circle both quantities and underline the total.

SESSION 2

Read a function across representations

A cart charges a setup fee plus a price per cup. For 0, 4 and 10 cups the costs are $14, $20 and $29. Write a cost function. A second cart charges $2 per cup with no fee. When do the two cost the same? Explain the intersection.

Start here if you were away. Locate the row for zero cups. Say what its cost pays for.

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SESSION 3

Make the boundary count

A club has at most $48 for notebooks costing $4 and pens costing $2. It needs at least 15 items. Write two inequalities, including nonnegative whole-number restrictions. Which pair works: 8 notebooks and 7 pens, or 10 notebooks and 5 pens? Verify both constraints.

Start here if you were away. Underline “at most” and “at least.” Assign a variable to each item.

SESSION 4

Summarize a distribution

Delivery minutes for five orders are 3, 4, 4, 5, 9. A sixth order takes 23 minutes. Compute the mean and median before and after. Which better describes a typical order after the sixth? Defend your choice.

Start here if you were away. Order the times and mark the middle position or positions.

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SESSION 5

Find what a zero means

A model gives a ball's height in meters as $h(t) = -t^2 + 6t$ for $0 \le t \le 6$ seconds. Find both zeros and the time and height of the maximum. Explain why two zeros make sense here.

Start here if you were away. Factor out t. Identify which variable describes time.

SESSION 6

Choose and check a model

A print shop charges $18 plus $0.40 per flyer. Another charges $6 plus $0.60 per flyer. A student says the first is cheaper for 40 flyers. Test the claim, find the break-even quantity, and explain when the first is cheaper.

Start here if you were away. Write a separate expression for each shop before substituting 40.