Answers

**Algebra**

**Unit 3 Line Master 3f**

1. Volume: 331.6625 cm3; label area: 204.1 cm2;
design cost: $306.15

2. a) The jars have similar volumes. To the nearest cubic
 centimetre, the volume of the first jar is 593 cm3 and
 the volume of the second jar is 580 cm3.

 b) The first jar; to the nearest cent, the label design cost
 for the first jar is $256.22 and the label design cost for
 the second jar is $296.26.

3. In the main program, I would set the **pricePerSquareCM** variable to 1.25 instead of 1.5.

4. Sample answer:

The first part of the subprogram **collectInfo** would change to

ask for the container radius

In the subprogram **calculateVolume**, I would delete the line that determines the radius.

 I would change the subprogram **calculateLabelArea**,
like this:

subprogram calculateLabelArea

 labelArea = 2 \* pi \* radius \* labelHeight

 display **labelArea**

 Answers (cont’d)

**Algebra**

**Unit 3 Line Master 3g**

5. Sample answer:

 a) I would create a new variable for the surface area
 of the top, called **topSA**.
 In the pseudocode, I would add a new subprogram
 called **calculateTopSA**:

 subprogram calculateTopSA

 topSA = pi \* radius \* radius

 display topSA

 In the program, it would look like this:
 ****

 b) I would create a new variable for the cost to design the
 sticker, called **topStickerCost**.
 In the pseudocode, I would add a new subprogram
 called **calculateTopStickerCost**:

 subprogram calculateTopStickerCost

 topStickerCost = pricePerSquareCM \* topSA

 display topStickerCost

 In the program, it would look like this:

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 Answers (cont’d)

**Algebra**

**Unit 3 Line Master 3h**

**Extensions:**Sample answers:

* Below the stage, I selected **Show** to have the sprite appear,
made the size 40, and dragged the sprite to the lower left corner of the stage.

Then, at the end of the main program, I added a block that made the sprite announce what the design cost was.

* I added a block to the end of the label design cost subprogram. The new block multiplies the **designCost** variable by 100, rounds it, then divides by 100.

The block looks like this:



* Samples using grocery items will vary.

 Answers (cont’d)

**Algebra**

**Unit 3 Line Master 3i**

* Sample program based on modifying Yindi’s program. For this sample, an image was added to help clients visualize the box and which face will be considered the base.

 Output for box with length 6 cm, width 4 cm, and height
 8.5 cm.