Algebra Unit 4 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review Embedded Assessment #3 Period\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Polynomial Operations: MEASURING UP**

Employees at Ship-It-Quik must perform computations involving volume and surface area. As part of the job application, potential employees must take a test that involves surface area, volume, and algebraic skills.

1. The surface area of a figure is the total area of all faces. The areas of the faces of a rectangular prism are shown. The surface area of this prism is 22*x*2 + 10*x* + 12. Complete the first part of the job application by finding the area of the missing face.



The formula for the volume of a rectangular prism is *V* = *lwh*, where *l*, *w*, and *h* are length, width, and height, respectively. The formula for the surface area is *SA* = 2*lw* + 2*wh* + 2*lh*.

2. Complete the second part of the job application by verifying whether or not the following computations are correct. Explain your reasoning by showing your work.

Volume: 2*x*3 + 32*x*2 + 120x



 x + 6

 x + 10

Surface Area: 5*x*2 + 48*x* + 60

3. Complete the final part of the job application by writing an expression for the volume of a cylinder with radius 4*xy*2 and height 3*xy*. Use the formula V = *πr*2*h* where *r* is the radius and *h* is the height. Simplify your answer as much as possible.