SAMPLE 1

5.2 Scaling up the Compost Box

Due Tues 5/29

Name: Lilly [redacted] #3 Period: 1 Date: 5/25/12

<Turn in to HW Tower>

B. How is the change in surface area from a 1-2-3 box to a similar box related to the scale factor from the 1-2-3 box to the similar box?

Suppose the compost box has a top. Will your answer change? Explain in 2-3 sentences.

The scale factor squared is the difference between the two boxes. The answer wont change, because even if you add 1 side, the S.A. will still need to be multiplied by the same amount.

Good use of full and complete sentences.

C. How is the change in volume from a 1-2-3 box to a similar box related to the scale factor from the 1-2-3 box to the similar box? Explain in 2-3 sentences.

The scale factor cubed (x^3) is the difference between the two boxes. to find the volume of a similar box, you would use this formula: Original volume $\cdot$ (scale factor^2)

E. Suppose the scale factor between the 1-2-3 box and a similar box is N.
Describe the dimensions, surface area, and volume of the similar box in 2-3 sentences.

Height: 8ft
Length: 16ft
Width: 24ft
S.A: 1024ft^2
Volume: 3072ft^3

This is not described using full sentences.
Additionally, the actual question was not answered.
There is no mention of the N scale factor.

SAMPLE 2

5.2 Scaling up the Compost Box

Name: Eleanor-1 Period: 1

<Turn in to HW TOW

B. How is the change in surface area from a 1-2-3 box to a similar box from the 1-2-3 box to the similar box?

Suppose the compost box has a top. Will your answer change? Exp

The surface area of the 1-2-3 bo to the S.F because however much th you multiply the orginal S.A • S.F the new S.A. NO, the S.A will the formula wont.

This sentance gets the point across but is not clear.

C. How is the change in volume from a 1-2-3 box to a similar box rela from the 1-2-3 box to the similar box? Explain in 2-3 sentences.

The volume of the 1-2-3 box & box is related to the s.f b formula for the new volume is s.f3, so the s.f is now much the shape

This explanation is clearer as it not only gives th

E. Suppose the scale factor between the 1-2-3 box and a similar box is Describe the dimensions, surface area, and volume of the similar box

The dimensions, surface area and vo all be multiplied by the sca to find the similiers boxes surface area & volume.

This is incorrect The new volume and surf

SAMPLE 3

5.2 Scaling up the Compost Box

Name: Chad [redacted] Period: 6 Date: 5/24/12

B. How is the change in surface area from a 1-2-3 box to a similar box related to the scale factor from the 1-2-3 box to the similar box?

Suppose the compost box has a top. Will your answer change? Explain in 2-3 sentences.

The S.A. changes is based of the formula $16 \cdot (S.F.^2)$ so they relate because the S.F. makes the short cut on how to find the S.A. If the compost box had a top, the answer wouldn't change but the formula would. It would just be $20 \cdot (S.A.^2)$

This is well written. The only problem is that the student mixed up the formula and the actual answer. Here, the formula is the same, the answer does not.

C. How is the change in volume from a 1-2-3 box to a similar box related to the scale factor from the 1-2-3 box to the similar box? Explain in 2-3 sentences.

Each time the dementions are doubled the volume goes up by 8x. When the dementions are doubled, the S.F. goes up.

While this is accurate, it does not get at the point, that is, the formula.

E. Suppose the scale factor between the 1-2-3 box and a similar box is N.
Describe the dimensions, surface area, and volume of the similar box in 2-3 sentences.

Again it would follow the same rules and laws above. The dementions would be (1-2-3) SF, Volume would go up by 8x every time the dementions are doubled. And the S.A. would be $16 \cdot (S.F.^2)$

Here, it is clear that the student does not fully understand the formula for the new volume.

$$6 \times (S.F.)^3$$

SAMPLE #4

5.2 Scaling up the Compost Box

Name: WILLIAM [redacted] Period: 6 Date: _____

B. How is the change in surface area from a 1-2-3 box to a similar box related to the scale factor from the 1-2-3 box to the similar box?

Suppose the compost box has a top. Will your answer change? Explain in 2-3 sentences.

A SCALE FACTOR CHANGE OF 2 RESULTS IN A FOUR TIMES INCREASE IN SURFACE AREA. NOTHING WOULD HAPPEN IF A LID WAS ADDED TO BOTH, BECAUSE IT FOLLOWS THE SAME SCALE FACTOR.

Good sentance structure.

C. How is the change in volume from a 1-2-3 box to a similar box related to the scale factor from the 1-2-3 box to the similar box? Explain in 2-3 sentences.

WITH A SCALE FACTOR OF 2, THE VOLUME GOES UP BY 8 TIMES. FOR EXAMPLE, IF THE 1-2-3 BOX HAS AN VOLUME OF 6 CUBIC CM., THE VOLUME OF A BOX WITH A SCALE FACTOR OF 2 WOULD BE 48 CUBIC CM.

The example given shows this student really knows his stuff!

E. Suppose the scale factor between the 1-2-3 box and a similar box is N.
Describe the dimensions, surface area, and volume of the similar box in 2-3 sentences.

THE FORMULA YOU WOULD USE FOR VOLUME IS $6X(N^3)$. THE FORMULA FOR SURFACE IS $16X(N^2)$. THE DIMENSIONS ARE $1XN, 2XN, 3XN$

This is well written and provides all the information needed.