Lesson #26

SS4: Draw and interpret scale diagrams of 2-D shapes.

Lesson 26 already. I am so very proud of you. I know that this has not been easy. As always, remember that all I ask is that you do your best. It is a stressful time and your online learning is not meant to add any additional stress. This is all work at your own pace. Do what you can when you can because anything is better than nothing. I am thinking of you all and wishing you well and I am only an email away.

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1. Watch the following video as an introduction to scale

factor: <u>https://www.youtube.com/watch?v=W9utg_2w0_Q</u>

- YouTube lesson featuring Mrs. H. <u>https://youtu.be/Z35m8tG33wg</u>
- 3. Practice. Answer the following questions in full sentences your notebooks on p.67

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Name :_____ Date :_____

1. Determine the lengths of the unknown sides in the following scale diagram:



Original DiagramScale Diagram4cm x 4cm2cm x ?

- 2. In this chapter, we study <scale diagrams>. Explain the following with a sentence:
- a. Scale Diagram :_____
- b. Original Diagram :_____
- 3. Explain the difference between an enlargement and a reduction._____

How can we know if a scale diagram is an enlargement or a reduction of the original? (2 methods).

4. WHAT FORMULA DO WE USE TO FIND THE <SCALE FACTOR?> _____?

- 5. What does SCALE FACTOR mean? _____ Are they always expressed as fractions? _____
- 6. Explain what **« proportional »** means. Give an example.
- 7. Using arrows, identify the corresponding sides in the diagrams below. Must the corresponding sides always have the same scale factor? ______ If yes, we say they are ______. If not, what happens to our enlargement or reduction? ______



8. What is the importance of units of length when we are calculating scale factor?

4. Now check your answers with mine.

SOLUTIONS Review of 7.1 and 7.2: EVERYTHING you need to know 😊 p. 67

Name :_____ Date :_____

2. Determine the lengths of the unknown sides in the following scale diagram:



Original Diagram 4cm x 4cm

Scale Diagram 2cm x <mark>2cm</mark>

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- 9. In this chapter, we study <scale diagrams>. Explain the following with a sentence:
- c. Scale Diagram:_what we finish with- an enlargement (bigger than the original) or a reduction (smaller than original)_____
- d. Original Diagram: what we begin with. Our original picture/shape/figure/object ____
- 10. Explain the difference between an enlargement and a reduction. An enlargement is bigger than the original and has a scale factor of more than one. A reduction is smaller than the original and the scale factor is less than one. _____

How can we know if a scale diagram is an enlargement or a reduction of the original? (2 methods). <u>1. We can look at it. An enlargement will be bigger than the original and the</u> reduction will be smaller than the original. 2. We can look at the scale factor. If it is more than one, it is an enlargement. If it is less than one, it is a reduction.

- 11. WHAT FORMULA DO WE USE TO FIND THE <SCALE FACTOR?> ____SF= SD ÷original scale factor = scale diagram divided by original _____?
- 12. What does SCALE FACTOR mean? _how many times bigger or smaller your scale diagram is compared to your original ______ Are they always expressed as fractions? _no. Decimal or fraction or ratio ______
- 13. Explain what « proportional » means. Give an example. Proportional means what we do to one set of corresponding sides we must to do to all sets of corresponding sides. I.e., If it is an enlargement with a scale factor of 1.7, all corresponding sides in the scale diagram are 1.7 times bigger than the original.

14. Using arrows, identify the corresponding sides in the diagrams below. Must the corresponding sides always have the same scale factor? __YES_____ If yes, we say they are __PROPORTIONNAL_____. If not, what happens to our enlargement or reduction? _____It becomes distorted! A distortion!_____



15. What is the importance of units of length when we are calculating scale factor? __we must always use the same units. Ex. cm ÷ cm_____