**NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Updated 2016

**This part is due on: WEDNESDAY, JUNE 1st**

**Assignment 3: Creature Feature**

**Part I: Perimeters & Areas**

**Tiers B/C**

**Part 1**: (Remember you may use a calculator, but must show your proportions and equations!)

This week you will find the perimeters and areas of each of the scaled drawings of your 4 polygons. You will also calculate the surface area and volume of one of your rectangular prisms using the actual dimensions.

1. Find the perimeter and area of the polygons **drawn on your graph paper** (not of the real creature) so that I will be able to check them. Measure in inches and round to the nearest quarter inch. Use the calculation sheets provided in this packet.
2. Write the perimeter in each polygon (on the graph paper) labeled

 P = \_\_\_\_\_.

1. Write the area in each polygon (on the graph paper) labeled

A= \_\_\_\_\_\_.

1. Measure the length, width and height of the rectangular prism and label these on the attached calculation sheet.
2. Now calculate the surface area and volume of your rectangular prism and add these answers to the sheet as well. You may use your reference sheet for formulas.
3. Write the surface area in the polygon (on the graph paper) labeled

 SA= \_\_\_\_\_.

1. Write the volume in the polygon (on the graph paper) labeled

 V = \_\_\_\_\_.

**Part II: Triangles**

1. Add 3 different types of triangles on the torso of your creature. These can be cut out of paper and placed on the torso.
2. Use your scale factor and proportions to determine the size of the triangles on your drawing. Do this on your scale calculation sheet. Draw them to scale on your graph paper. They do not need to be 3-D.

10) Label the type of triangle, by its sides and its angles, on each triangle on

 your scale drawing. You must have one of each type of side and angle.

Sides: isosceles, scalene, equilateral.

Angles: right, obtuse, acute.

11) Find the perimeters of the 3 triangles on your graph paper (scale

 drawing). Show the calculations for the perimeters on the calculation

 sheet. Round to the nearest ¼ inch.

12) Find the areas of the 3 triangles on your graph paper (scale drawing).

 Show the calculations for each area on the calculation sheet. Round to the thousandths.

13) Measure the 9 angles of the triangles on your graph paper with a

 protractor. Clearly write each measurement at its angle on the graph

 paper.

14) Label the type of angle on all 9 angles on your graph paper.

 Example: obtuse, acute, right. Abbreviate with O, A, R.

15) Upload a new picture of your creature, which shows the triangles on your creature to your class’ picture diary. **Insert arrows pointing to your triangles!!**

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**RUBRIC: Assignment 3: 50 points**

**Check off each step as you complete it.**

\_\_\_\_\_\_\_\_\_\_\_\_ Surface area of rectangular prism. (of actual creature)Put on drawing as SA = \_\_\_\_\_\_\_. (3 pts)

\_\_\_\_\_\_\_\_\_\_\_\_ Volume of rectangular prism. (of actual creature) Put on drawing as V = \_\_\_\_\_\_. (3 pts)

\_\_\_\_\_\_\_\_\_\_\_\_\_ Perimeters of the 4 polygons on your graph paper. Use your drawing to determine the perimeters. You must show the work on your calculation sheet. (4 pts)

\_\_\_\_\_\_\_\_\_\_\_\_ Areas of the polygons on your graph paper. Use your drawing to determine the areas. You must show the work on your calculation sheet. (4 pts)

\_\_\_\_\_\_\_\_\_\_\_\_ Neatness (2 pts)

\_\_\_\_\_\_\_\_\_\_\_\_\_ Creativity, effort (2 pts)

**All perimeter and areas are of the scaled drawing, not of the actual creature!!!**

\_\_\_\_\_\_\_\_\_ Addition of 3 different types of triangles (do not need to be 3 – D on your creature). (3 pts)

\_\_\_\_\_\_\_\_\_\_\_ Calculations for scaling triangles included and accurate. (3 pts)

 \_\_\_\_\_\_\_\_\_\_\_ Triangles drawn on graph paper in the correct size. (3 pts)

 \_\_\_\_\_\_\_\_\_\_\_Types of triangles labeled on your drawing. (example: isosceles triangle). (3 pts)

 \_\_\_\_\_\_\_\_\_\_ Perimeters of the 3 triangles on your graph paper. Use your drawing to determine the perimeters. You must show your work on your calculation sheet. (3 pts)

 \_\_\_\_\_\_\_\_\_\_\_\_ Areas of the 3 triangles on your graph paper. Use your drawing to determine the areas. (3 pts)

 \_\_\_\_\_\_\_\_\_\_\_ Measurement of 9 angles of the triangles on your graph paper. The measurements need to be written clearly on the graph paper. (3 pts)

 \_\_\_\_\_\_\_\_\_\_\_ Angles labeled on graph paper as to their type. (example: obtuse, scalene) (3 pts)

 \_\_\_\_\_\_\_\_\_\_\_ Photo uploaded to your photo library. Add a new slide, have arrows pointing to your new triangles. Tell your highlights and hardships. (4 pts)

 \_\_\_\_\_\_\_\_\_\_\_ Neatness (2 pts)

 \_\_\_\_\_\_\_\_\_\_\_ Creativitiy, effort ( 2pts)

CALCULATIONS:

ASSIGNMENT # 3 Part 1

|  |  |
| --- | --- |
| Perimeter – Polygon 1Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Write on your drawing P = \_\_\_\_\_ | Area – Polygon 1Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Write on your drawing A = \_\_\_\_\_\_\_ |
| Perimeter – Polygon 2Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Write on your drawing P = \_\_\_\_\_ | Area – Polygon 2Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Write on your drawing A = \_\_\_\_\_\_\_ |
| Perimeter – Polygon 3Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Write on your drawing P = \_\_\_\_\_ | Area – Polygon 3Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Write on your drawing A = \_\_\_\_\_\_\_ |
| Perimeter – Polygon 4Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Write on your drawing P = \_\_\_\_\_\_\_ | Area – Polygon 4 Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Write on your drawing A = \_\_\_\_\_\_\_ |

**Volume and Surface Area of Rectangular Prism**

**All volumes and surface areas are of the actual creature, not the scaled drawing!!!**

Length:\_\_\_\_\_\_\_\_\_\_\_\_ Width:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Height:\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Surface Area | Volume |
| Write on your drawing SA=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Write on your drawing V = \_\_\_\_\_\_\_ |

CALCULATIONS:

ASSIGNMENT # 3 Part 2

|  |  |
| --- | --- |
| **Triangle 1****Type of Triangle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Scale calculations:****Perimeter:****Area:** | **Triangle 2****Type of Triangle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Scale calculations:****Perimeter:****Area:** |

|  |  |
| --- | --- |
| **Triangle 3****Type of Triangle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Scale calculations:****Perimeter:****Area:** | **Measure each angle of your triangles and place the measurement directly on your drawing.** |