GRADE 8 MATH Unit 4: Measuring Prisms and Cylinders REVIEW Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| **NAME** |  | **DIAGRAM** | **NET** |
|  | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
|  | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
| CUBE | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
| triangular  PYRAMID | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
| TRIANGULAR PRISM | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
| pentagonal PRISM | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
| Pentagonal pyramid | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
| Octagonal prism | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |
| Octagonal pyramid | BASE:  SIDES:  FACE:  EDGES:  VERTICES: |  |  |

2. Fill-in the blanks.

|  |  |
| --- | --- |
| 1. | 1. a prism with sides perpendicular to its bases |
| 2. | 2. Where three or more edges meet |
| 3. | 3. where two faces meet in a polyhedron |
| 4. | 4. an object made from polygons |
| 5. | 5. A prism with regular polygons as bases |
| 6. | 6. Flat side of a prism |
| 7. | 7. a 3-D object which has TWO parallel and congruent sides which are joined by  parallelograms as the other faces |
| 8. | 8. Having length, width and height |
| 9. | 9. a closed shape made from line segments |
| 10. | 10. Having length and width |

3. What is the difference between a right prism and a regular prism?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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4. Complete the table.

|  |  |  |
| --- | --- | --- |
| Will this net  make a polyhedron? | ANSWER:  YES OR NO | REASON |
|  |  |  |
|  |  |  |
|  |  |  |

5. A) How much cloth is needed to cover the surface of a triangular prism?

10.3 m 8m 15m

9 m

B) How much metal is needed to cover the surface of a triangular prism shaped shed?

(round to nearest tenth) 2.8mm

5 mm 3.7mm

13.1 mm

8.3 mm

6. A) What is the surface area of this right rectangular prism? 2.1 cm

(round to nearest cm2) 6.7 cm

7.4 cm

B) Given a cube with 1 face with area 22 m2. What is the total surface area of the cube?

7. What is the surface area of this cylinder? 2 mm 6 mm

Both circles have the same radius.

1. Find VOLUME.
2. right rectangular prism 14.1 m

5.2 m

6.3 m

1. Right triangular prism 15.4 mm

3.5 mm

12.4 mm

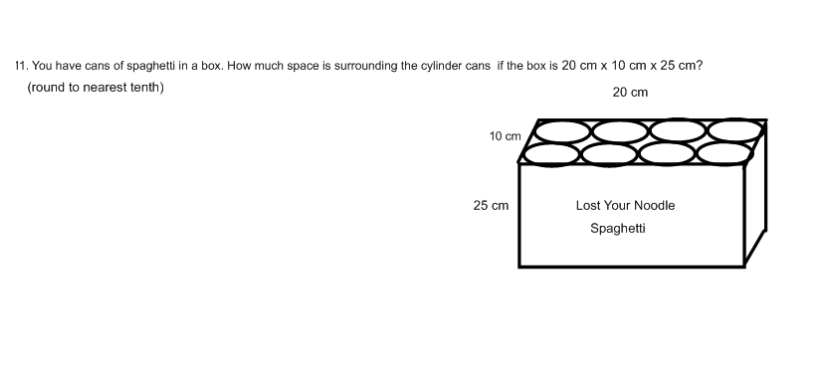
1. Right cylinder 9.4 cm

18.7 cm

1. Right cylinder 12 mm

6.3 mm

1. A can of paint covers 25m2 wall surface. If you paint your room twice and are in a room 6m x 4 m x 3 m, how many cans of paint do you need?
2. You have an aquarium 60 cm x 80 cm x 70 cm. You fill it up with water 20 cm from the top. What volume of water is in the aquarium?



**KEY: Unit 4: 3-D Geometry Midterm REVIEW SHEET**

1. rectangular prism b =2 rectangles s = 3 rectangles f= 6 e=12 v=8

cylinder b= 2 circles s-1 rectangle f=2 e=2 v=0

cube b= 2 squares s= 4 square f=g e=12 v=8

tetrahedron b= 1 triangle s=3 triangles f=4 e=6 v=4

triangular prism b=2 triangles s=3 rectangles f=5 e= 9 v=6

pentagonal prism b=1 pentagon s=5 rectangles f=7 e=15 v=10

pentagonal pyramid b=1 pentagon s=5 triangles f=6 e=10 v= 6

octagonal prism b= 2 octagons s=8 rectangles f= 10 e=24 v= 16

octagonal pyramid b= 1 octagon s=8 triangles f=9 e=16 v=9

2. 1. Right prism 2. Vertex 3 edge 4. Polyhedron 5. Regular prism 6. Face 7. Prism 8. 3-dimensional 9. Polygon 10. 2-dimensional

3. right prism ; sides perpendicular to bases regular prism: sides not perpendicular to base (slanted)

4. a) NO overlap and missing side b) yes bases opposite sides / 2 trapeziods and 4 rectangles for sides C) NO missing side

5. A) 516 m2 b) 245.9 mm2

6. A) 158 cm2 b) 132 m2

7. 100.48 mm2

8. A) 416.916 m3  B) 334.18 mm3 C) 1297.08062 cm3 D) 14955.192mm3