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

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_right prism\_ bases perpendicular to its sides\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_regular prism – bases NOT perpendicular to its sides\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Complete the table.

|  |  |  |
| --- | --- | --- |
| Will this net  make a polyhedron? | ANSWER:  YES OR NO | REASON |
|  | NO | Overlap on right side  Missing base on left |
|  | YES | Bases on opposite sides  4 sides matching 4 sides of base |
|  | NO | Missing side |

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

TRIANGLE RECTANGLEs

1. 15 x 10.3 = 154.5 10.3 m 2. 15 x 10.3 = 154.5 8m 15m

3. 15 x 9 =135 9 m

2 triangles = 2 x 36 = 72 SA = 72 + 154.5+154.5 +135

**= 516 m2**

B) How much batter fills the triangular cake pan?

(round to nearest tenth) 2.8mm

triangle 5 mm 3.7mm

13.1 mm

8.3 mm

= 11.62 mm2 V= B x H

= 11.62 x 13.1

= 152.222

Approx. 152.2 mm3

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

(round to nearest **cm2**) 6.7 cm

SA = 2lw + 2lh + 2wh 7.4 cm

= 2(7.4)(2.1) + 2(7.4)(6.7)+ 2(2.1)(6.7) BEDMAS

= 31.08 + 99.16 + 28.14

= 158.38

Approx. 158 cm2

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

**Remember a cube has 6 identical faces…**

**6 x 22 = 132 m2**

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

Both circles have the same radius.

=2(3.14)(2)(2) + 2(3.14)(2)(6)

= 25.12 + 75.36

= 100.46 mm2

1. Find VOLUME. (Round to nearest tenth)
2. right rectangular prism 14.1 m

V= B x H

= 5.2 x 6. 3 x 14.1 5.2 m

= 461.916 6.3 m

Approx.. 461.9 m3

1. Right rectangular prism 15.4 mm

V = bh x h

2 3.5 mm

= 12.4 x 3.5 x 15.4

2 12.4 mm

= 334.18

Approx. 334.2 mm3

1. Right cylinder 9.4 cm

= (3.14)(4.7)(4.7)(18.7)

= 1297.08062 18.7 cm

Approx. 1297.1 cm3

1. Right cylinder 12 mm

V = B x H 6.3 mm

= (3.14)(6.3)(6.3)(12)

= 1495.5192

approx. 1495.5 mm cubed