MPM 1D0

Grade 9 Academic Math
Unit 0 – Measurement and Geometry Review – Practice Test

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/10	/20	/12	/10

Victim: _____

Modified True or False (5 KU)

Indicate whether each statement is *true* or *false*. If false, *change* the underlined part to make the statement true.

1. _____ Math is like a dating service because it's all about <u>relativity</u>. **Change:** _____

2. _____ If the radius of a circle is doubled, its area is <u>doubled</u>. **Change:** _____

3. _____ A triangular pyramid has <u>four</u> *lateral* faces. **Change:** _____

4. _____ The basic elements of math are objects, <u>operatives</u> and relationships. **Change:** _____

5. _____ $(A_{base})(\text{height})$ is the <u>surface area</u> of any solid with a uniform cross-section. **Change:** _____
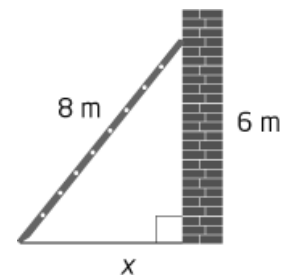
Multiple Choice (5 KU)

For questions 6 to 10, select the best answer. Write the letter of your choice in the provided blank space.

6. _____ A cone has a volume of 314.16 cm³ and a radius of 5 cm. To one decimal place, what is its height?

   (a) 10.1 cm **(b)** 12.0 cm **(c)** 11.3 cm **(d)** 12.8 cm

7. _____ A window cleaner has placed an 8-m ladder against a wall. The top of the ladder is 6 m above the ground. What is the distance, to the nearest tenth of a metre, of the ladder from the wall?

   (a) 5.1 m **(b)** 5.2 m **(c)** 5.3 m **(d)** 5.4 m

8. _____ A circular swimming pool has a diameter of 8.6 m. It is filled to height of 1.6 m. To the nearest 100 L, how much water is in the pool? (**Hint:** 1 m³ = 1000 L)

   (a) 93 800 L **(b)** 98 500 L **(c)** 99 900 L **(d)** 92 900 L

9. _____ Which statement is *not* true?

   (a) The length of any side of a right triangle can be calculated if the lengths of the other two sides are known.

   (b) The hypotenuse is the longest side in a right triangle.

   (c) The hypotenuse is always opposite the 90° angle in a right triangle.

   (d) The Pythagorean Theorem applies to *all* triangles.
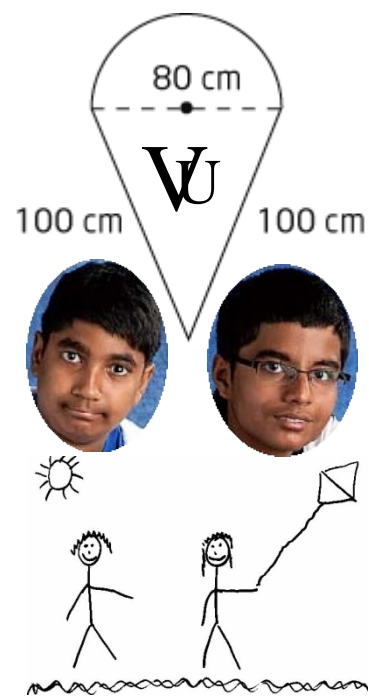
10. _____ The measure of any exterior angle of a triangle is equal to

    (a) The measure of the opposite interior angle.

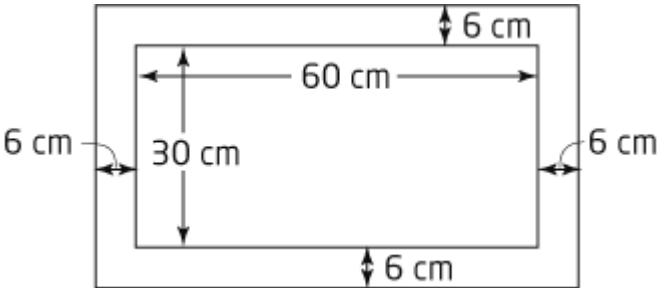   **(b)** The sum of the measures of the two opposite interior angles.

    (c) 180°

    (d) 360°

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11. Vyshna and Uday have a kite-making business that they call VUiTon Fashionable Kites. Their company makes large kites in the shape shown at the right. Each of these kites has fancy gold trim around the ***perimeter***. How much gold trim is used for each kite? **(4 APP)**
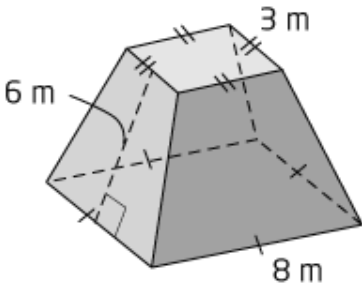
80 cm

100 cm   100 cm

12. A picture measures 60 cm by 30 cm. The mat around the picture is 6 cm wide. Find the area of the mat. **(4 APP)**

6 cm

60 cm

6 cm   30 cm   6 cm

6 cm

13. A ***cone*** with a volume of 120 cm^3 just fits inside a ***cylindrical*** container having the same radius and height. What is the volume of the cylindrical container? **(2 APP)**
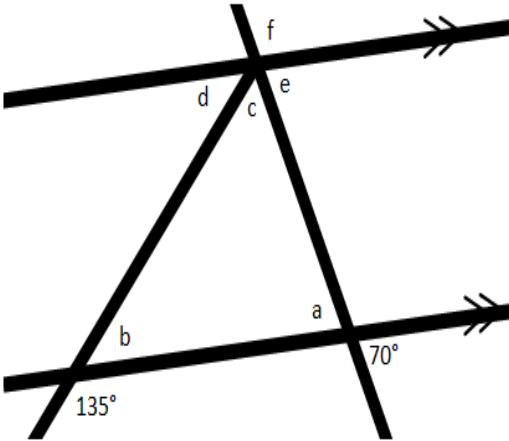
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14. The base for a large statue is in the form of a frustum of a pyramid with dimensions as shown. The *top* and *sides* are covered with paint. What area is painted? **(4 APP)**

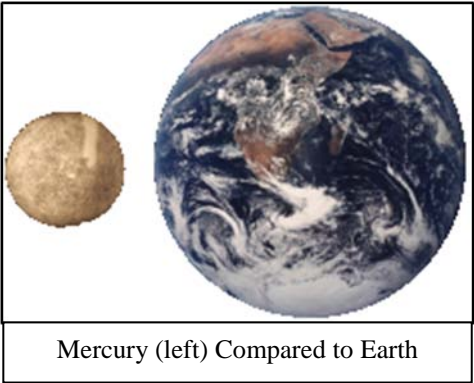**15.** Find the measures of each angle labelled with a letter. In each case, state your *reasoning*. **(6 APP)**

Measure of Angle	Reasoning (State Why)
a = _____	
b = _____	
c = _____	
d = _____	
e = _____	
f = _____	

16. Big Bran breakfast cereal is sold in a single serving size. This rectangular prism shaped box has dimensions 4 cm by 5 cm by 10 cm. The manufacturer also sells the cereal in a box that has dimensions three times those of the small box. Compare the volume of the two boxes and explain your answer. **(6 TIPS)**

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17. The volume of the planet Mercury is about 61,000,000,000 km^3 (61 billion cubic kilometres). The Earth's radius is about 2.6 times that of Mercury. What is the Earth's volume? **(6 TIPS)**

Mercury (left) Compared to Earth

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