

HILLCREST HIGH SCHOOLGrade 8 Mathematics Exam – Paper 2November 2018MARKS: 80TIME: 1 HOUR

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|-----------------|----------|----------|----------|-----------|----------|-----------|-----------|--------------|--------------------|
| Name | | | | | | | | | |
| Class | | | | | | | | | |
| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total | GRAND TOTAL |
| Total | 7 | 6 | 5 | 28 | 8 | 16 | 10 | 80 | 250 |
| Marks | | | | | | | | | |
| Initials | | | | | | | | | |

INSTRUCTIONS

1. This paper consists of SEVEN questions. Answer ALL questions.
2. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
3. Show ALL calculations clearly. Answers only will NOT necessarily be awarded full marks.
4. Round off ALL final answers to TWO decimal places, unless stated otherwise.
5. Indicate units of measurement, where applicable.
6. Maps and diagrams are NOT necessarily drawn to scale.
7. Write neatly and legibly.

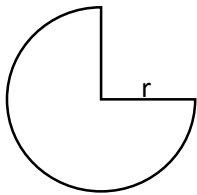
Question 1: Multiple Choice Questions**[7]****ANSWER THE FOLLOWING BY CIRCLING THE CORRECT LETTER.**1.1 An angle of 204° is said to be:

- A) Acute B) Obtuse C) Reflex D) A straight line

1.2 Angles which share a common arm and a common vertex are:

- A) Alternate B) Adjacent C) Corresponding D) Co-interior

1.3 Which of the following best represents the area of this shape:



- A) πr^2 C) $\frac{3}{4}\pi r^2$
 B) $2\pi r$ D) $\frac{3}{2}\pi r + 2r$

1.4 Which of the following best describes a triangle for which we can use Pythagoras' theorem?

- A) Obtuse-angled triangle B) Scalene triangle
 C) Isosceles triangle D) Right angled triangle

1.5 What is the circumference, in meters, of a circle with radius of 75cm?

- A) 471 cm B) 4,71 cm
 C) 1,77 cm D) 17 671 cm

1.6 Convert 362m to km.

- A) 0,362km B) 3,62km
 C) 0,0362km D) 36,2km

1.7 The complement of $50^\circ - x$ is:

- A) $130^\circ - x$ B) $130^\circ + x$
C) $40^\circ - x$ D) $40^\circ + x$

Question 2: True or False

[6]

For each of the following statements, state if it is TRUE or FALSE. If the statement is FALSE, give a reason.

2.1 Angles which lie on a straight line are complementary.

2.2 Vertically opposite angles are equal to each other.

2.3 The volume of a cylinder is: $V = lbh$

2.5 The area of a triangle is $\frac{1}{2}$ x base x perpendicular height.

Question 3: Fill in the blanks

[5]

3.1 Corresponding angles are equal when a _____ cuts through two parallel lines.

3.2 The supplement of 72° is _____.

3.3 The volume of a prism can be found by multiplying the height of the prism by the _____ of the base.

3.4 The most appropriate unit of measurement for a packet of chips is _____.

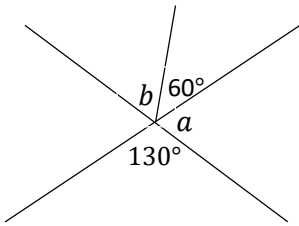
3.5 A _____ triangle has no sides of equal length.

Question 4

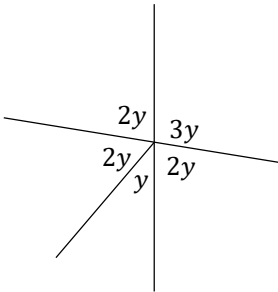
[28]

Find, **giving reasons**, the values of **all** of the unknown variables in each case:

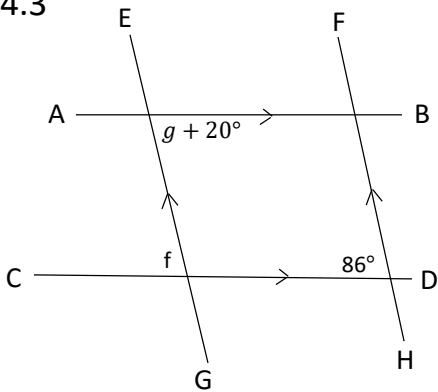
4.1 (4)



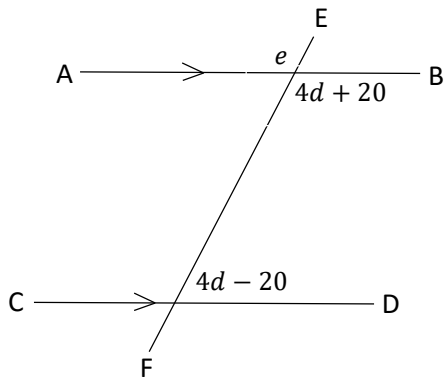
4.2 (3)



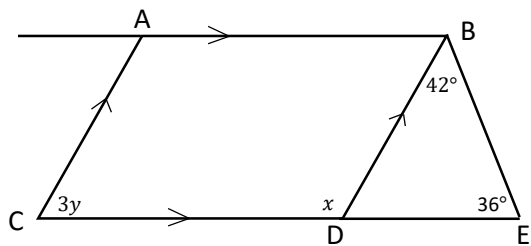
4.3 (5)



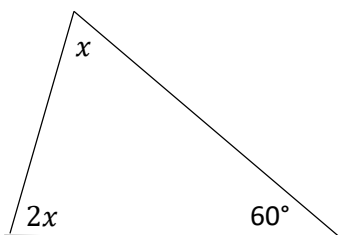
4.4 (6)



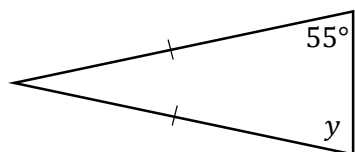
4.5 _____ (5)



4.6 _____ (3)

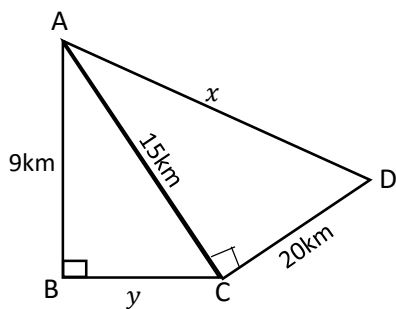


4.7 _____ (2)



Question 5 [8]

5.1 Calculate, giving reasons, the lengths of x and y in the following diagram: (6)

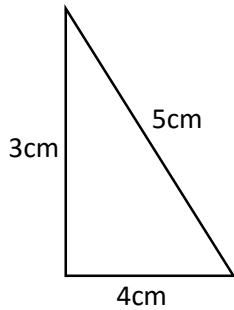


5.2 Hence, determine the perimeter of ABCD. (2)

Question 6:**[16]**

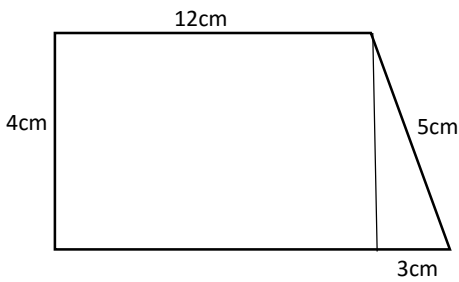
Find the Areas and Perimeters of each of the following shapes, always using appropriate units of measurement:

6.1 Area: _____ (4)



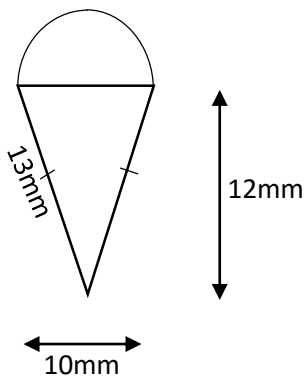
Perimeter: _____

6.3 Area: _____ (6)



Perimeter: _____

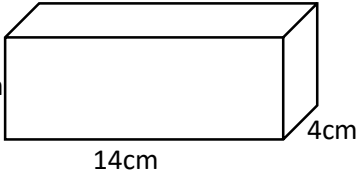
6.4 Area: _____ (6)

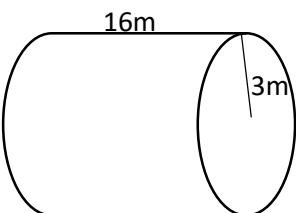


Perimeter: _____

Question 7:**[10]**

Calculate the volume of each of the following shapes

7.1  _____ (2)

7.2  _____ (3)

7.3 In a Toblerone chocolate box as shown below, the area of one of the triangular face is 3cm^2



7.3.1 What is the name of this kind of 3-D shape? _____ (1)

7.3.2 If the base of the triangle is 3cm, find the value of its perpendicular height. (2)

7.3.3 If the length of the box is 15cm, what is the volume? (2)

-END-