

# TEACHERS WITHOUT BORDERS PROGRAMME

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Department:  
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In Bill Gates words, at the Mandela Day 'Living Together' address: "Maintaining the quality of this country's higher education system while expanding access to more students will not be easy. But it's critical to South Africa's future" – working together, we can help achieve this."

## Contributing schools to date:

Clifton School	Milnerton High	Rustenburg Girls' High	St Peter's
Durban Girls'	Northwood High	St Anne's DC	St Stithians
Fairmont High	Roedean	St John's DSG	Wynberg Boys' High
Herzlia High	Rondebosch Boys'	St Mary's DSG Kloof	Wynberg Secondary

**SECTION B – 45 Marks**

**NAME** \_\_\_\_\_ **GRADE 8** \_\_\_\_\_ **GEBBERS RUGBAR SCHWEGMANN**

**Instructions**

1. Write your **Name** and **Grade** at the top of the page in the space provided.
2. **Circle** your teacher's name.
3. Answer all the questions on this question paper.
5. Show **all your working** out in the spaces provided.

QUESTION 1

Fill in the missing word in each of following:

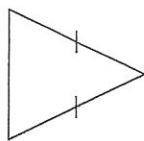
- a.  $250^\circ$  is called a(n) reflex angle. ✓
- b. The complement of  $40^\circ$  is  $50^\circ$ . ✓
- c. The supplement of  $80^\circ$  is  $100^\circ$ . ✓
- d. The size of an angle of an equilateral triangle is  $60^\circ$  degrees. ✓
- e. A triangle with three sides of equal lengths is called a(n) equilateral triangle. ✓
- f. If an obtuse angle is halved, what type of angle is formed? acute. ✓
- g. The angle between the two hands of a clock at 12h 20 is  $120^\circ$  degrees. ✓
- h.  $90^\circ$  is also known as a right angle. ✓

[8]

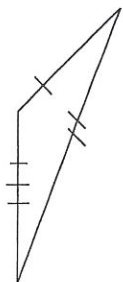
QUESTION 2

2.1 Classify each triangle according to their sides.

(a)



(b)



Isosceles  $\Delta$  ✓

Scalene  $\Delta$  ✓

(2)

2.1 Use a ruler and pencil to draw an example of:

(a) an acute angle

(b) a reflex angle.

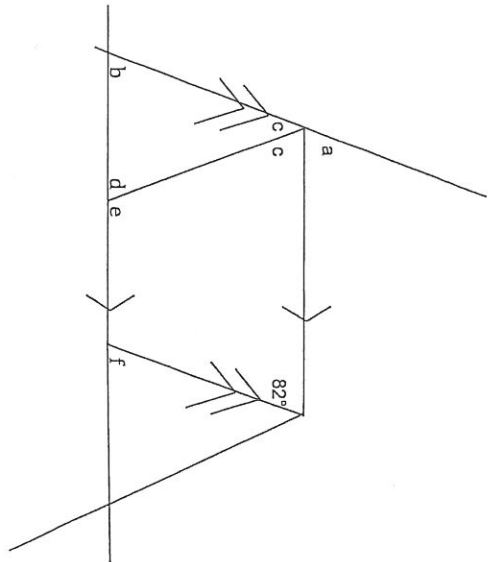
A protractor does not have to be used.

<p>(a) An acute angle</p> <p style="text-align: right;">(1)</p>	<p>(b) A reflex angle</p> <p style="text-align: right;">(1)</p>
[4]	[4]

QUESTION 3

3.1 Give the value of each of the letters in the angles of this diagram. No reasons need be given.

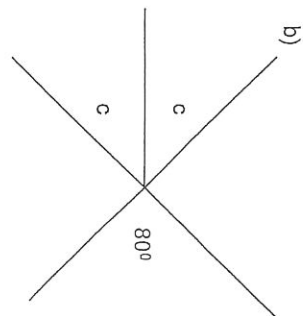
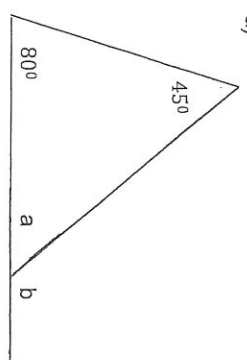
Write your answers in the box below the diagram.



a.	$82^\circ$	✓
b.	$82^\circ$	✓
c.	$49^\circ$	✓
d.	$49^\circ$	✓
e.	$131^\circ$	✓
f.	$82^\circ$	✓

(6)

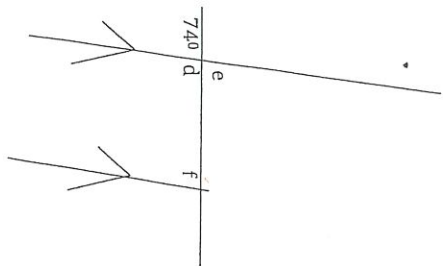
3.2 Calculate the value of the letter in each of the following. Show all your working and give reasons for your answers.



a)  $a + 80^\circ + 45^\circ = 180^\circ$  (Sum of  $\Delta$ )  
 $a + 125^\circ = 180^\circ$   
 $a = 180^\circ - 125^\circ$   
 $a = 55^\circ$  ✓  
 $b + 55^\circ = 180^\circ$  (L's on st line)  
 $b = 180^\circ - 55^\circ$   
 $b = 125^\circ$  ✓  
 OR  
 $b = 80^\circ + 45^\circ$  (ext +  $\Delta$  of  $\Delta$ )  
 $b = 125^\circ$  ✓

b)  $c + c = 80^\circ$  (Vert opp  $\Delta$ s)  
 $2c = 80^\circ$   
 $c = 80^\circ \div 2$   
 $c = 40^\circ$  ✓

(4)



c)

Start

$$d = 180^\circ - 74^\circ \text{ (}\angle\text{ s on st line)}$$

$$d = 106^\circ$$

$$e = 74^\circ \text{ (vert opp } \angle\text{ s)}$$

OR ( $\angle\text{ s on st line}$ )

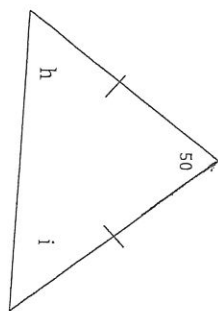
Full reason

$$f = 74^\circ \text{ (convexp } \angle\text{ s || lines)}$$

OR (Co.int  $\angle\text{ s || lines}$ )

(-1/2 no || lines)

(7)



d)

$$h = i \text{ (}\angle\text{ s opp sides)}$$

(Isos  $\Delta$ )

$$h = i = (180^\circ - 50^\circ) \div 2$$

( $\angle$  sum  $\Delta$ )

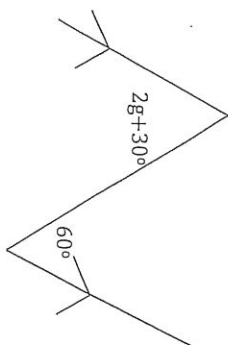
$$h = i = 65^\circ$$

Full reason

OR (Co.int  $\angle\text{ s || lines}$ )

(-1/2 no || lines)

(5)



e.

Start

$$2g + 30^\circ = 60^\circ \text{ (alt } \angle\text{ s = || lines)}$$

$$2g = 60^\circ - 30^\circ$$

$$2g = 30^\circ$$

$$g = \frac{30^\circ}{2} \text{ (} m \div 2)$$

$$g = 15^\circ$$

(5)

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