

**MATHEMATICS**

**GRADE 7**

**TERM 1**

**TEST**

**Marks:** \_\_\_\_\_

**Time:** \_\_\_\_ minutes

**Instructions:**

1. Answer ALL questions.
2. A non-programmable calculator may be used unless otherwise stated.
3. show all necessary steps in your working unless otherwise stated.
4. When answering questions, apply your knowledge, skills and insight.
5. Number the answers correctly according to the numbering system used in this question paper.
6. Write neatly and legibly.

**Name of Learner:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Grade 7:** \_\_\_\_\_\_\_

|  |
| --- |
| **100** |

**Mark Obtained:**

MATHEMATICS GRADE 7

**TERM 1:**

EXAMINER:

MODERATOR: TIME: 2 HOURS ASSESSMENT TOOL: MEMORANDUM

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Level 1  0 – 29%  Not Achieved | Level 2  30 – 39%  Elementary achievement | Level 3  40 – 49%  Moderate achievement | Level 4  50 – 59%  Adequate achievement | Level 5  60 – 69%  Substantial achievement | Level 6  70 – 79%  Meritorious  achievement | Level 7  80 – 100%  Outstanding  achievement |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_ Grade 7 \_\_ No \_\_

**SECTION A**

MULTIPLE CHOICE

Circle the letter corresponding to the correct answer. Only one answer is correct.

1. 160 ÷ 8 equals

a) 20 b) 2 c) 200 d) 2 000

2. Round off 2 897 to the nearest 100

a) 2 800 b) 2 900 c) 2 890 d) 2 895

3. equals

a) 600 b) 650 c) 25 d) 2

4. The next number in the sequence 11 347 ; 10 847 ; 10 347 ; …… is

a) 9 847 b) 10 097 c) 9 597 d) 9 347

5. The LCM of 4; 12; 18; and 36 is:

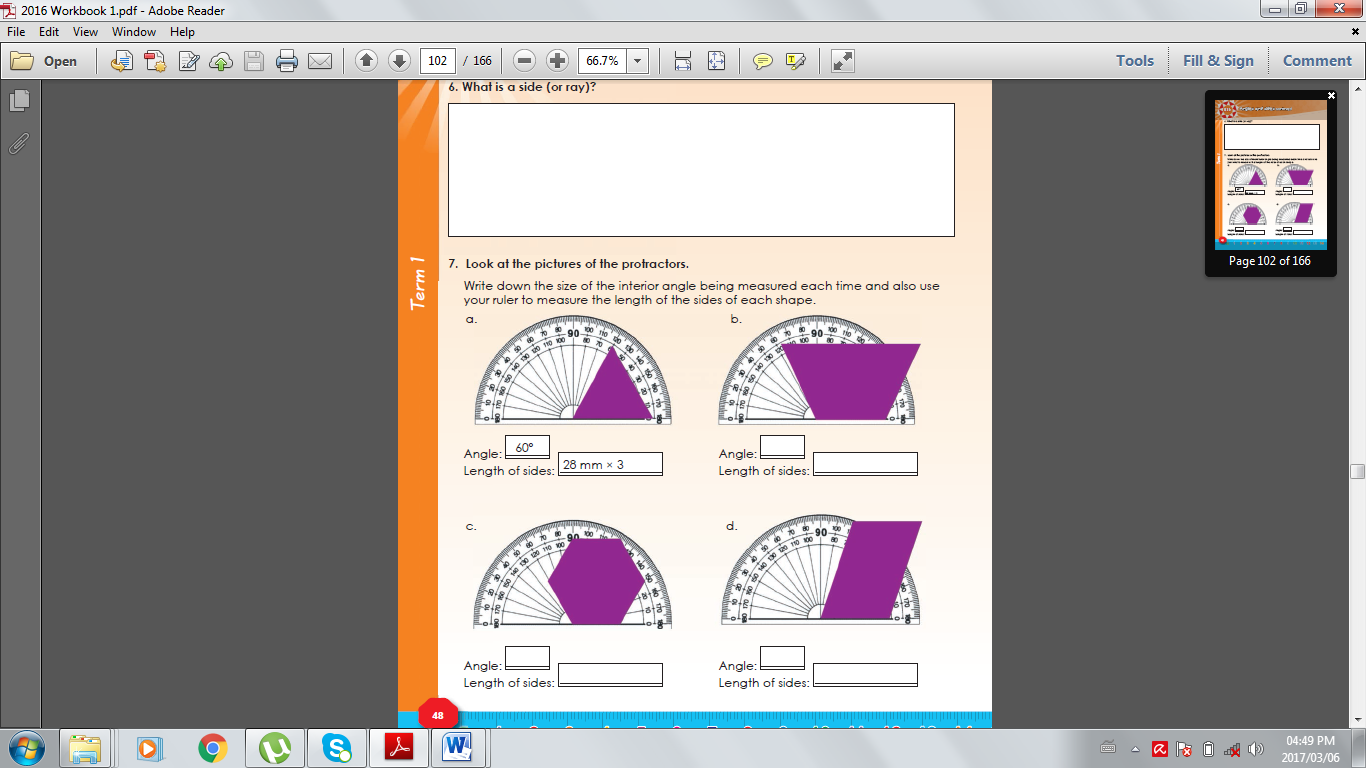
a) 4 b) 12 c) 18 d) 36

6. 5% discount on R3 960 amounts to:

a) R396 b) R500 c) R100 d) R198

7. The circumference is the outline of a

a) quadrilateral b) triangle c) circle d) square

8. The size of the interior angle is

a) 62

b) 122

c) 150

d) 90

9. The name given to an angle such as 145 is:

a) reflex angle b) obtuse angle c) acute angle d) straight angle

10. Twelve teams participated in a netball tournament. Each team played every other team once. How many games were played altogether?

a) 24 b) 66 c) 144 d) 132

[10]

**SECTION B**

WHOLE NUMBERS

1. Arrange and draw the following numbers in ascending order on the number line:

241 782 ; 242 342 ; 241 699 ; 241 571 ; 242 102; 241 999.

l-------------------------------------------------------------------------------------------------------------------l

1. What is the smallest number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)
2. What is the biggest number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)
3. What is the difference between the two numbers?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. What is the sum of the second and the fourth number on this number line?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. Find a number which is halfway between the third and the fifth interval on the number line?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

2. 2.1 Write down all the factors of 8 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

2.2 Give the first four (4) multiples of 7 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

2.3 Write down all the prime factors of 108 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

2.4 What is the LCM of 12 and 15? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

2.5 What is the HCF of 28 and 21? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

3. Calculate the following:

3.1 452, 13 + 43, 40 + 1 624, 35 3.2 678 453, 6 – 5 626, 54

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

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (2)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (2)

3.3 463 x 242 3.4 10 608 ÷ 34

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

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

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

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

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (4)

3.5 24 852 ÷ 4

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

4. 4.1 Apply the commutative property of addition and multiplication to the following

statements and make the resulting statements to be true.

1. 128 + 456 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)
2. 7(12 x 5) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

4.2 Apply the distributive property of multiplication to the following statements and make the resulting statements to be true.

1. 8(4 – 3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)
2. 5 x 24 + 5 x 13 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

5. Complete the following statements to make them true:

5.1 = \_\_\_\_\_\_\_\_\_\_\_ 5.2 8 = \_\_\_\_ x \_\_\_\_ x \_\_\_\_

5.3 = \_\_\_\_\_\_\_\_\_\_\_ 5.4 9 + = \_\_\_\_\_\_\_\_\_\_\_\_

5.5 100 = \_\_\_\_ 5.6 = \_\_\_\_\_\_\_\_\_\_

5.7 4 x + 5 x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (7)

6. Calculate the following

6.1 6.2

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_ (2) = \_\_\_\_\_\_\_\_ (2)

6.3 + = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ (2)

7. Calculate and simplify

7.1 = \_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_ (2)

7.2 = \_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_ (2)

[44]

**SECTION C**

RATIO, RATE AND FINANCE

1. There are 500 learners at Orange School. Everyone must play a winter sport.

Learners can play soccer or hockey or netball. 200 boys play soccer and 75 boys play hockey.

100 girls play netball and 125 play hockey.

1. What is the ratio of soccer players to netball players?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which simplifies to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. What is the ratio of boys playing soccer to boys playing hockey?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which simplifies to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. What does the ratio 3 : 5 represent according to the information given above?

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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. Stephen is making jam to sell at a food market. Look at the budget below and

answer the questions that follow.

|  |  |  |
| --- | --- | --- |
| For 10 jars | Expenses | Income |
| Jar | R65.00 |  |
| Sugar | R27.00 |  |
| Fruit | R90.00 |  |
| **TOTAL** |  |  |

1. What are Stephen’s total expenses for ten jars of jam?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. If Stephen sells all his jars of jam for R25.00 each, what will his total income be?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. If Stephen sells all his jars of jam, what will his profit be?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

1. If Stephen only sells half of his jars of jam, what will his profit/loss be?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

[7]

**SECTION D**

GEOMETRY

1. Write down the instructions for a friend explaining how to draw a 45 angle using a protractor. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (6)

3. 3.1 Using a ruler and a pencil, draw the following line segments.

a) PQ AB

b) Three line segments parallel to AB

A l----------------------------------------l B

(2)

(2)

3.2 Which one of the two concepts, vertical and horizontal, is applicable to the following scenarios?

a) A train moving on a rail track \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) A lift moving from the 3rd to the 6th floor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Athletes running 100 metres on a track field \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(3)

4. Draw sketches to illustrate the following angles:

|  |  |
| --- | --- |
| An obtuse angle | A right angle |
| A straight angle | A reflex angle |

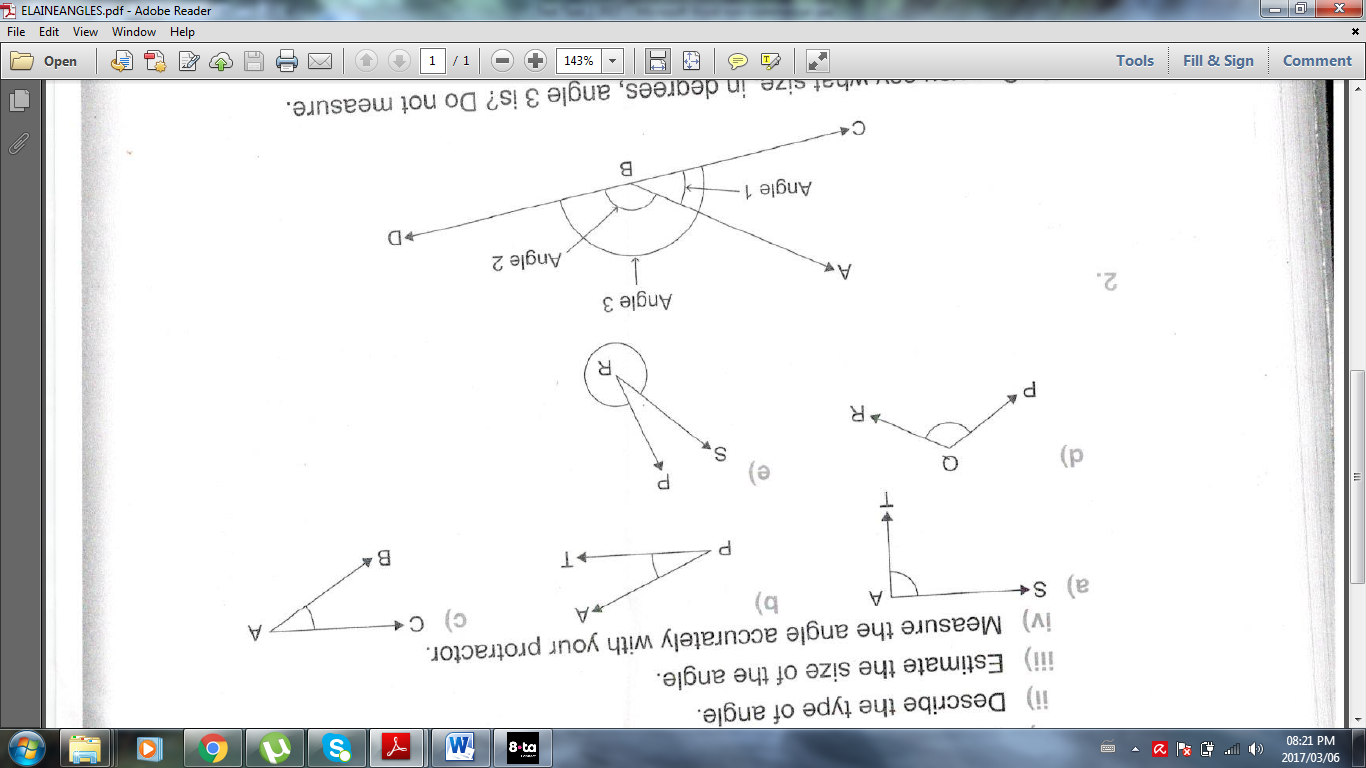
(4)

5. For each of the following:

i) Name the angle using the letters shown

ii) Describe the type of angle

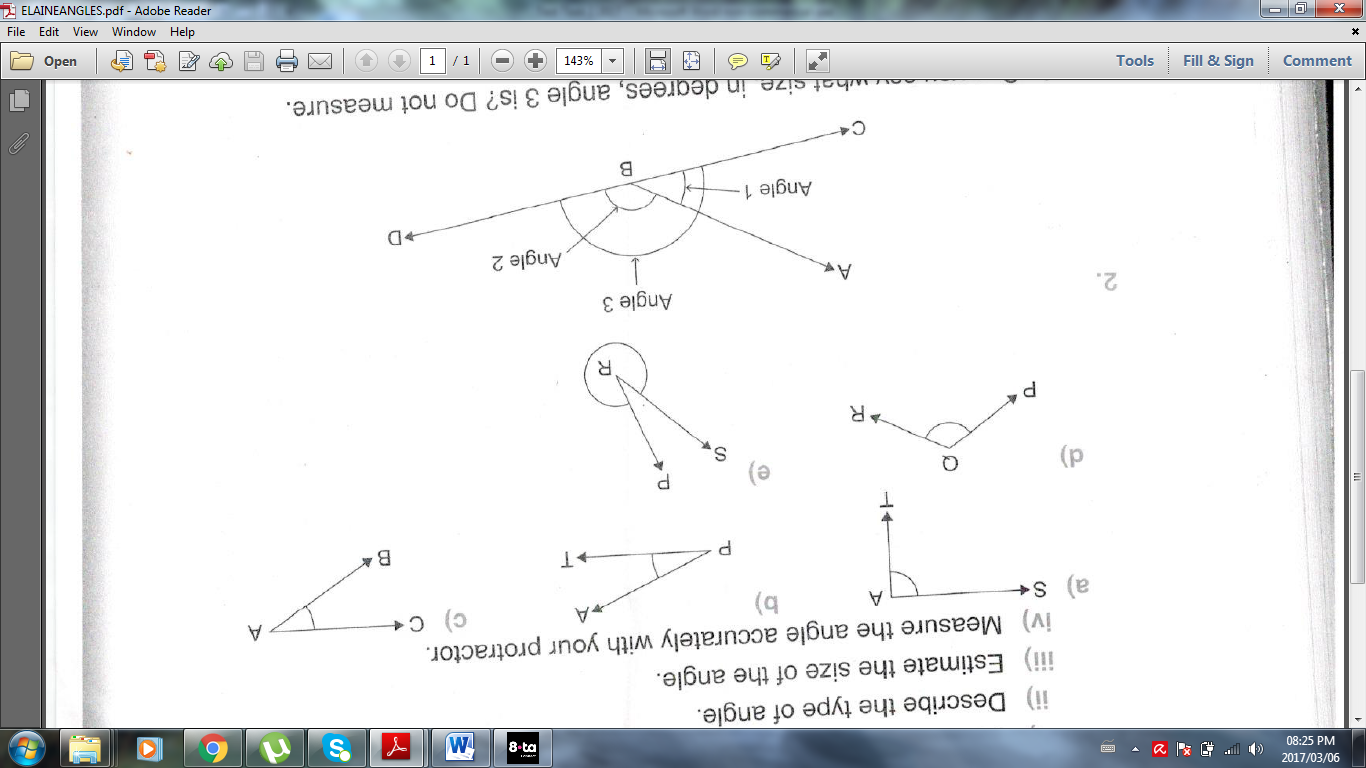
iii) Measure the angle accurately with your protractor.



5.1 i) \_\_\_\_\_\_\_\_\_\_\_\_\_\_

ii) \_\_\_\_\_\_\_\_\_\_\_\_\_

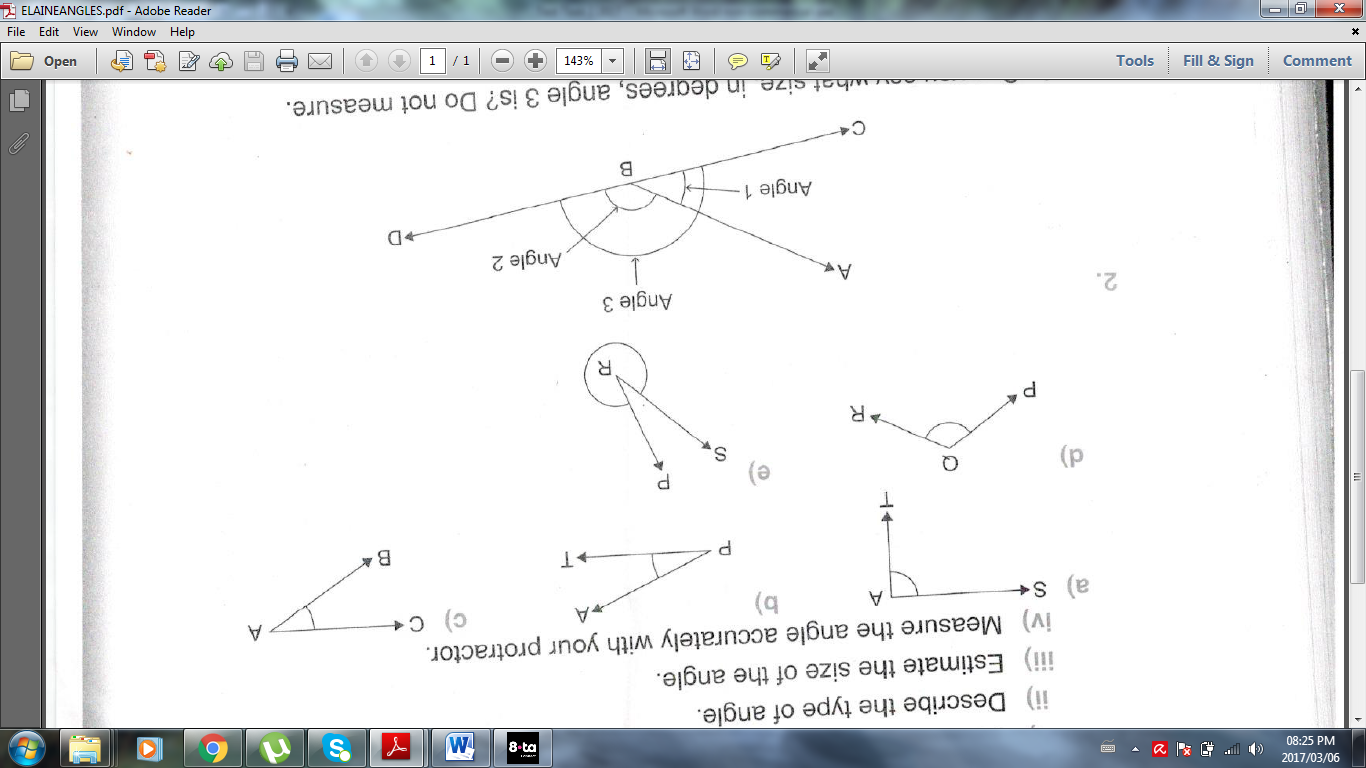
iii)\_\_\_\_\_\_\_\_\_\_\_\_\_



5.2 i) \_\_\_\_\_\_\_\_\_\_\_\_\_\_

ii) \_\_\_\_\_\_\_\_\_\_\_\_\_

iii)\_\_\_\_\_\_\_\_\_\_\_\_\_



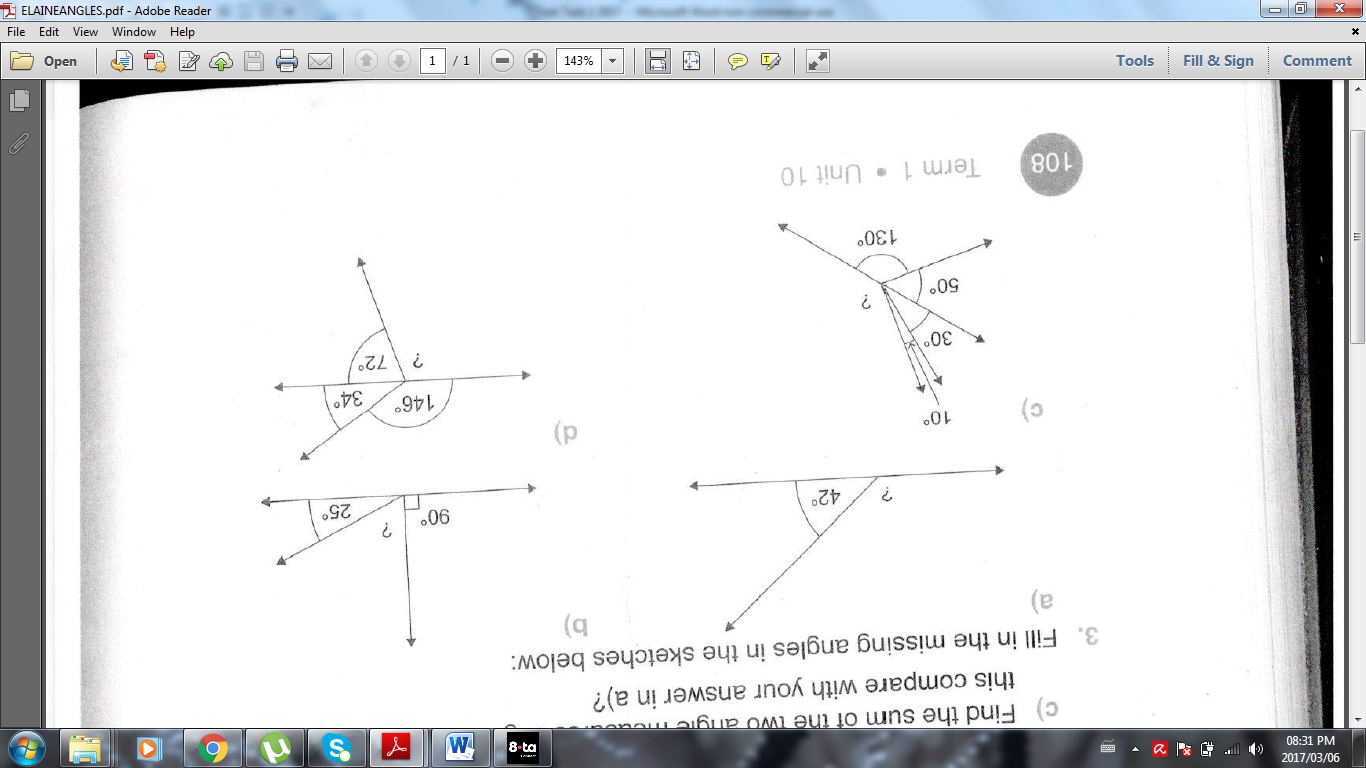
5.3 i) \_\_\_\_\_\_\_\_\_\_\_\_\_\_

ii) \_\_\_\_\_\_\_\_\_\_\_\_\_

iii)\_\_\_\_\_\_\_\_\_\_\_\_\_

(9)

6. Fill in the missing angles in the sketches below.



(4)

7.1 Construct and label a 30 angle ABC using a protractor.

(2)

7.2 Construct and label a 215 angle DEF using a protractor.

(2)

8. Draw the lines and label the circle using the following terms:

diameter; chord; radius; sector; and arc

(5)

[39]

FINAL TOTAL/ 100