STELLA MARIS COLLEGE, GZIRA   HALF-YEARLY EXAMINATIONS 2013

FORM 1   MATHEMATICS

TIME: 2 hrs

Name: _____   Class: _____

ATTEMPT ALL QUESTIONS:

- ✓ Write your answers in the space available on the examination paper.
- ✓ Show clearly all the necessary steps and explanations in your working.
- ✓ Diagrams are **NOT** drawn to scale.
- ✓ The use of calculators is **NOT** allowed.
- ✓ This paper carries a total of 100 marks.

1. Work out the following:

a. $361 - 200 + 15 - 81$

b. $45 + (-67)$

c. $30 - (-77)$

d. $-5.65 - (+40.45)$

e. $100\,000$ **x** (-329.43)

f. $-8474 \div (-1000)$

(6 marks)

_____

2. Work out these problems.

a. Find the difference between one hundred and ninety and eighty-three. Then add on thirty-seven.

b. Andrew has 30 marbles in his pocket when he goes to school on Monday morning. At first playtime he wins 6 marbles. At second play time he loses 15 marbles. At third playtime he loses 4 marbles. How many marbles does he now have?

(4 marks)

_____

3. Work out the following:

a. $12 \div 4 + 3 \times 2$

b. $5 \times 4 \div 10 + 6$

c. $2 \times (7 - 2) \div (16 - 11)$

d. $(18 \div 3 + 3) \div (4 \times 4 - 7)$

(8 marks)

_____

4. Work out these problems.

a. A light bulb was tested by being left on non-stop. It failed working after 28 days exactly. For how many hours was it working?

b. A car park has 34 rows and each row has 42 parking spaces. How many cars can be parked?

c. If a coach holds 30 children how many coaches are needed to take 420 children on a school outing?

d. How many fives are there in 132?

(8 marks)

_____

5. In an orchard there are 20 apple trees, 18 plum trees, 14 cherry trees and 10 pear trees. What fraction in lowest terms of the all the trees are

    a. apple trees ?

    b. pear trees ?

    c. not cherry trees ?

<div align="right">(6 marks)</div>

_____

6a. Find an equivalent fraction with denominator 36 for each of the following fractions:

    i. $\dfrac{3}{4}$

    ii. $\dfrac{5}{18}$

    iii. $\dfrac{75}{108}$

<div align="right">(3 marks)</div>

b. Arrange the following fractions in **descending** order:

$$\frac{7}{10} \ , \ \frac{2}{5} \ , \ \frac{3}{15} \ , \ \frac{2}{3} \ , \ \frac{23}{30}$$

(5 marks)

_____

7. Work out these problems.

   a. A group of friends went to a hamburger bar. $\frac{2}{5}$ of them bought a hamburger, $\frac{1}{3}$ of them just bought chips. The rest bought a drink.

   i. What fraction of the group bought food ?

   ii. What fraction bought a drink ?

   b. The postman delivers 30 letters in Upper St Albert Str, Gzira. He delivers $\frac{1}{6}$ of the letters to the Agius family, $\frac{3}{10}$ of the letters to the Bonello family and $\frac{1}{3}$ of the letters to Mr Cassar.   How many letters

   i. do the Agius family get ?

   ii. do the Bonello family get ?

   iii. does Mr Cassar get ?

   iv. are left in the bag?

<div align="right">(12 marks)</div>

_____

8. Work out the following:

a. $\dfrac{5}{12} + \dfrac{1}{6} + \dfrac{1}{3}$

b. $\dfrac{1}{8} - \dfrac{13}{16} + \dfrac{3}{4}$

c. $4\dfrac{4}{5} + 9\dfrac{4}{15} + 1\dfrac{1}{3}$

d. $7\dfrac{3}{4} - 4\dfrac{7}{8}$

(8 marks)

_____

9. Work out the following:

a. $3\frac{9}{10}$ x $1\frac{2}{3}$ x $1\frac{3}{13}$
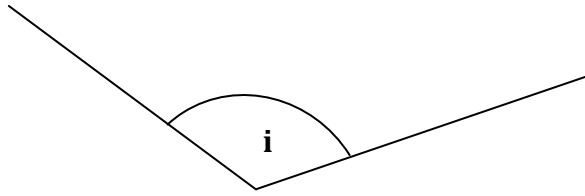
b. Divide $5\frac{1}{4}$ by $2\frac{11}{12}$

c. $1\frac{1}{2} + 2\frac{2}{3}$ x $\frac{3}{4}$

d. $1\frac{3}{4} \div 4\frac{2}{3} - \frac{5}{16}$

e. Express $\frac{4}{5}$ as a decimal number.

(10 marks)

_____

10a. Measure angle **i** and fill in the statement below.

Angle **i** is an _____ angle and measures _____.

(2 marks)

13. Calculate the missing angles $x°, y°$ and $z°$ for the diagrams below giving reasons for your answers.
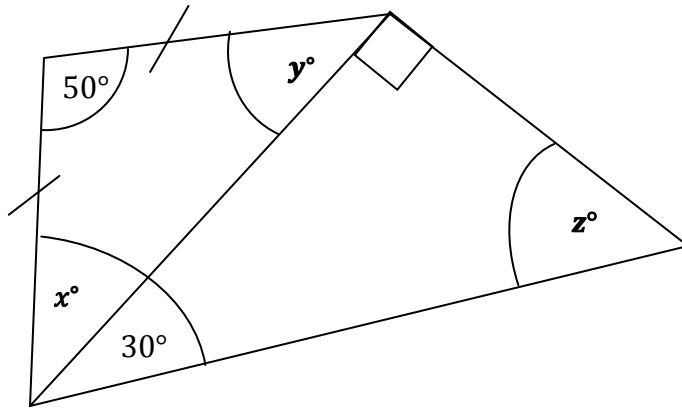
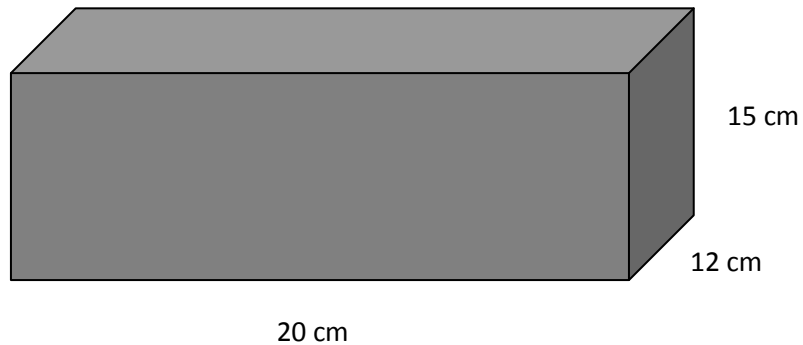i.
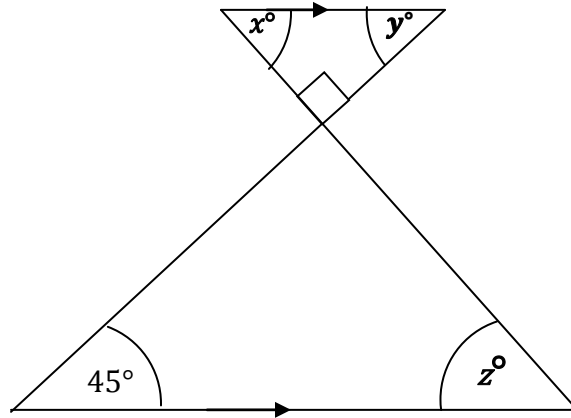
x° = _____

y° = _____

z° = _____

(6 marks)

ii.

x° = _____

y° = _____

z° = _____

(6 marks)

_____

11. A closed box of dimensions 12 cm by 15 cm by 20 cm is made up from rectangular pieces of wood glued together as shown below.
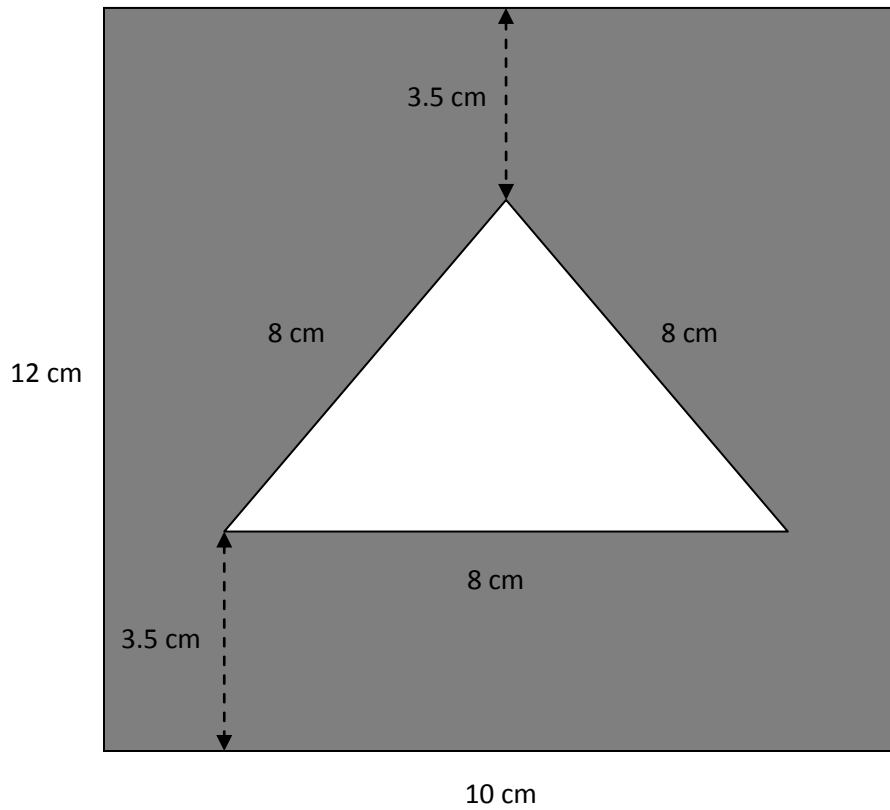

a. The box is to be painted with red paint. Calculate the **area of red paint** for the wooden box.

b. If 1tin of paint covers an area of 400cm^2 how many tins have to be bought to paint the wooden box?

(5 marks)

_____

12. A piece of cardboard measuring 10 cm by 12 cm has an equilateral triangle cut out through its middle point.
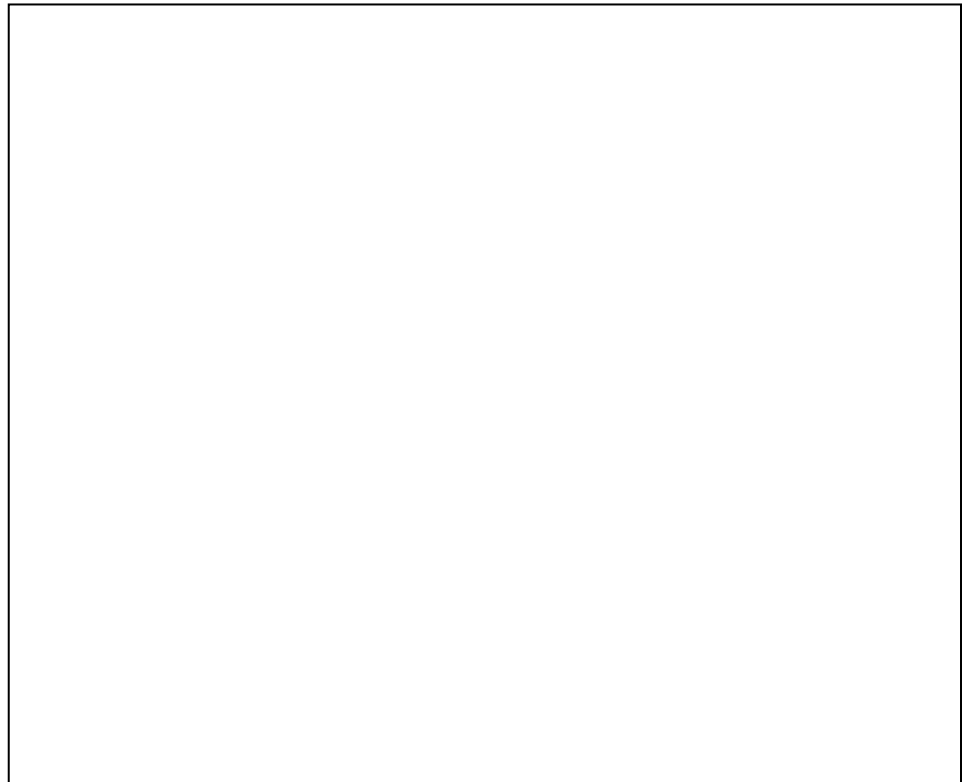
Find the **shaded area** of the formed shape.

Shaded Area _____ .

_____

13. Matthew attempts an exercise of Logo programming. He types in the following commands.

    a. Draw the diagram which Matthew has completed in the table below.

pd	
fd 50	
rt 90	
fd 100	
rt 90	
fd 100	
rt 90	
fd 200	
rt 90	
fd 50	
rt 90	
fd 100	

    b. Work out the Perimeter of the shape formed.

(6 marks)

_____

END OF PAPER