MANZANILLA SECONDARY SCHOOL

4 BUSINESS END OF TERM 1 TEST
MATHEMATICS
MS. RAGBIR

STUDENT'S NAME:_____

SECTION B

This section has two question worth 20 marks. You can use a calculator. You have 45 minutes to complete this section.

LIST OF FORMULAE

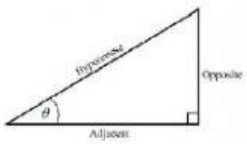
Volume of a prism	$V = Ah$ where A is the area of a cross-section and h is the perpendicular length.
Volume of a cylinder	$V = \pi r^2 h$ where r is the radius of the base and h is the perpendicular height.
Volume of a right pyramid	$V = \frac{1}{3}Ah$ where A is the area of the base and h is the perpendicular height.
Circumference	$C = 2\pi r$ where r is the radius of the circle.
Area of a circle	$A = \pi r^2$ where r is the radius of the circle.
Area of Trapezium	$A = \frac{1}{2}(a+b)h$ where a and b are the lengths of the parallel sides and h is the perpendicular distance between the parallel sides.
Roots of quadratic equations	If $ax^2 + bx + c = 0$, then $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Trigonometric ratios

$\sin\theta = \frac{\text{opposite side}}{\text{hypotenuse}}$

$\cos\theta = \frac{\text{adjacent side}}{\text{hypotenuse}}$

$\tan\theta = \frac{\text{opposite side}}{\text{adjacent side}}$



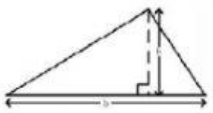
Area of triangle

Area of $\Delta = \frac{1}{2}bh$ where b is the length of the base and h is the perpendicular height

Area of $\Delta ABC = \frac{1}{2}ab\sin C$

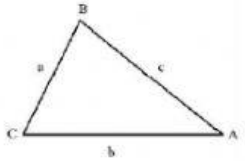
Area of $\Delta ABC = \sqrt{s(s-a)(s-b)(s-c)}$

where $s = \frac{a+b+c}{2}$



Sine rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine rule $a^2 = b^2 + c^2 - 2bc\cos A$



LIVEWORKSHEETS

SECTION B

This section has two question worth 20 marks. You can use a calculator. You have 45 minutes to complete this section.

Answer ALL questions.

All working must be clearly shown.

1. (a) Using a calculator or otherwise, evaluate EACH of the following:

(i) $\dfrac{2\frac{1}{4} - 1\frac{3}{5}}{3}$

.....

(2 marks)

(ii) $\sqrt{0.0529} + 0.216$, expressing your answer in standard form.

(3 marks)

.....

LIVEWORKSHEETS

(b) A typist is paid a basic wage of $22.50 per hour for a 40-hour week.

(i) Calculate the typist's basic weekly wage. **(1 mark)**

$

.....

Overtime is paid at one and a half times the basic hourly rate.

(ii) Calculate the overtime wage for ONE hour of overtime work. **(1 mark)**

$

.....

LIVEWORKSHEETS

To earn some extra money, the typist decided to work overtime.

Calculate

(iii) the wage she would earn for overtime if she worked for a TOTAL of 52 hours during a given week. **(2 marks)**

$

.....

(iv) the number of overtime hours she must work during a given week to earn a TOTAL wage of $1440. **(2 marks)**

HRS

.....

Total Marks = 11

LIVEWORKSHEETS

2. (a) Simplify completely

(i) $3p^2 \times 4p^5$

.....

2 marks

(ii) $\frac{3x}{4y^3} \div \frac{21x^2}{20y^2}$.

.....

(2 marks

LIVEWORKSHEETS

b.

Find the value of $2\pi\sqrt{\frac{l}{g}}$ where $\pi = 3.14, l = 0.625$ and $g = 10$.

.....

2 marks

c.

If $a * b = a^2 - b$, evaluate $5 * 2$.

.....

(3 marks)

9 marks

LIVEWORKSHEETS