**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

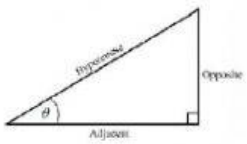
| | |
|---|---|
| Volume of a prism | $V = Ah$ where $A$ is the area of a cross-section and $h$ is the perpendicular length. |
| Volume of a cylinder | $V = \pi r^2 h$ where $r$ is the radius of the base and $h$ is the perpendicular height. |
| Volume of a right pyramid | $V = \frac{1}{3}Ah$ where $A$ 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

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

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

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



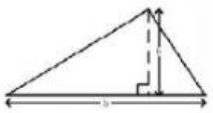

Area of triangle

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

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

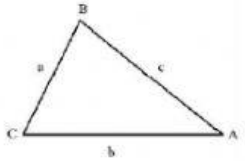
Area of $\Delta ABC = \sqrt{s(s-a)(s-b)(s-c)}$

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