

**THE PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
MBOZI DISTRICT-SONGWE
J.P.MAGUFULI SECONDARY SCHOOL
FORM TWO MID-TERM EXAMINATION-MARCH 2024
BASIC MATHEMATICS**

TIME: 02½ HOURS

INSTRUCTIONS:

1. *This paper consists of ten(10) compulsory questions*
2. *Show your work clearly*
3. *All writing must be in blue or black ink, except drawings which should be in pencil.*

SECTION A

- 1.(a) If $(3^{(x+2)})(2^{(2y-3)})=72$, find the value of **x** and **y**
(b) Express the following radicals in their most simplified form
 - (i) $\sqrt{75} \div \sqrt{12}$
 - (ii) $6\sqrt{5} \times 2\sqrt{2}$
 $\sqrt{20} \times 3\sqrt{21}$
 - 2.(a) Rationalize the denominator in $\frac{\sqrt{3} + 2}{\sqrt{5} - \sqrt{3}}$
(b) If $V = \pi r^2 h$, make **r** the subject of the formula.
 - 3.(a) The operation $x * y$ is defined as $2x + y^2$. Find the value of the following
 - (i) $3 * 2$
 - (ii) $(1 * 3) * 2$
 - (b) Remove the brackets and simplify:
 - (i) $2(5p + 4x)$
 - (ii) $2\pi r(r + h)$
 - 4.(a)(i) Expand $(6x + 5)^2$
(ii) Find the coefficient of **n** and **n²** in the Expansion of $(n + 9)(n + 3)$
(b) Factorize **abc + bcd + cde**
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