

Senior two entry maths exercise two

SENIOR TWO MATHS EXERCISE TWO

SECTION A

1. Simplify: $3\frac{1}{4} + 2\frac{1}{8} - 1\frac{3}{5}$.
2. Find $32_{\text{six}} \times 45_{\text{six}}$ in base ten.
3. Find the equation of the line that passes through (4, 10), (3, 8), (6, 14).
4. If $a * b = \frac{a^2}{b}$, find $(10 * 5)$
5. Mukasa and Jane are to share 60,000 Shs. If Jane takes $\frac{2}{5}$ of the share, what does Mukasa take?
- 6.(a) Simplify the following: (i) $3a + 5a$ (ii) $3y + y + 7y$
(b) Solve for x if $3x + 12x = 8 - 3x$.
7. Write down the next three terms of each sequence.
(a) 1, 3, 5, 7, 9, 11, -----, -----, -----
(b) 2, 6, 18, 53, -----, -----, -----.
8. The interior angle of a regular hexagon is 108° , how many sides does it have?
9. Find $+4 + -6 + +7$ using a number line.
10. $A = \{3, 7, 5\}$, $B = \{7, 5, 9, 12\}$ $C = A \cap B$ and $D = A \cup B$.
(i) State $\cap(A)$, $\cap(B)$ (ii) Is C A? (iii) Is C D?

SECTION B

11. A ship sails from Bukasa Island on a bearing of 050° for 72km. It then sails for 95km on a bearing of 108° , then 45km on a bearing of 210° .
(a) How far is the ship from Bukasa?

Senior two entry maths exercise two

- (b) What is the bearing of Bukasa from the final landing position?
12. $A = \{ (x,y) : y \geq 1 \}$, $B = \{ (x,y) : x \geq 2 \}$
 $C = \{ (x,y) : x + y \leq 8 \}$ show $D = A \cap B \cap C$ and find its area.
13. The distance d km, covered by an aeroplane flying at a speed of 500km/h for t hours is $d = 500t$.
- (i) Draw a straight line graph to illustrate this relation for values of t from 0 to 3.
- (ii) Use the graph to find how far the plane goes in $1 \frac{1}{2}$ hours.
- (iii) Use the graph to find how long it takes the plane to cover 430km.
14. On a squared paper plot ΔABC whose vertices are $A(2, 2)$, $B(4, 2)$, $C(2, 4)$.
- (i) Find the image $A^1 B^1 C^1$ of ABC after a reflection in $y = 1$.
- (ii) Find the image $A''B''C''$ when $A^1 B^1 C^1$ is reflected in $x + y = 0$.

END