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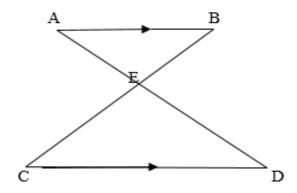
1) (a) Find the difference between LCM and GCF of the number 21, 35 and 56

(b)Evaluate
$$\left(\frac{2}{5} + \frac{3}{10}\right) \times \frac{4}{15} \div \frac{1}{3}$$

- 2) (a) Express 0.08 in the form of \overline{b} where a and b are integers.
 - (b)Write 1230000g into Kg.
- 3) (a) The operations an integer P and K is defined as P * K = PK + 2P 3K. Find the value of:
 - (i) 3 * 2
 - (ii) If 5 * a = 20, find the value of a.
 - (b) The interior angle of a regular polygon is 1200 more than exterior angle. Find:
 - (i) The Interior angle and exterior angle
 - (ii) The number of sides.
- 4) (a) If a:b=4:9 and a:c=3:7. Evaluate a:c.
 - (b) Given that x-2+y=0; Determine
 - (i) Slope
 - (ii) Y intercept
 - (iii) X intercept
- 5) (a) Solve the following simultaneous equation:

$$\begin{cases} x = 4 - \frac{3}{2}y \\ -3x + \frac{y}{2} = 1 \end{cases}$$

- (b) Solve the inequality $|x+5| \ge \frac{1}{2}$ and then represent your answer in number line.
- 6) (a)Rationalize the denominator of the expression $1 + \sqrt{2}$
 - (b)Solve for x if $\left(\frac{2}{3}\right)^{2x-1} = \left(\frac{3}{2}\right)^{-7}$
- 7) (a) Factorize completely $t^3 4t$ and hence use the result concept to find exact value of $(10003)^2 - (9997)^2$
 - (b) Find the Value of a if $\log_a 81 \log_2 32 = -1$
- 8) (a) Find the length of DE in the figure below if AB=30cm, CD=40cm and AE=24 cm.



(b) The translation T maps the point (-3,2) to (4,2). Find where will T maps

- (i) Point (-3,7)
- (ii) The origin.

$$Tan 45 + Sin 90$$

- 9) (a) Without using Mathematical table evaluate $\overline{Tan30Cos30Sin30}$.
 - (b)A ladder 15m long rest against the vertical wall such that foot of the ladder is 6m from the wall on horizontal floor. Find .
 - (i) Angle that the ladder makes with wall
 - (ii) The height above the floor at a point where the ladder touches the wall.
- 10) (a) There are 24 men at a meeting, 12 are farmers, 18 are solders and 8 are both farmers and soldiers. How many men are soldiers or farmers?
 - (b) The following table shows the marks which were recorded by 48 form two students in a mathematics test at Zi8mbiri secondary school.

Marks %	40	45	50	55	60	65	70
No of students	6	8	m	5	9	4	3

- (i) Determine the value of m
- (ii) What was the number of students who scored 55% and above.
- (iii) What was the lowest mark?
- (iv) What mark was scored by the majority of this students?
- (v) If 55% was the pass mark how many student failed this test?