

# TOP EDUCATIONAL INSTITUTE

MATHEMATICS

YEAR 9

BRITISH FIRST TERM (TP2)

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Answer all the questions in different sheets of papers.

01. Coordinates of two points on a straight line are A (5,7) and B (7,3). Find

- (a) the gradient of the line
- (b) the intercept of the line
- (c) the equation of the line
- (d) the midpoint of the line segment AB
- (e) the length of the line segment AB
- (f) the gradient of a perpendicular line to above straight line.

02.

- (a) Make a table with your own values to draw the straight-line graph of  $y= 2x+2$
- (b) Draw the graph of  $y= 2x+2$  taking 1 cm= 1 unit for both the axes.
- (c) Draw the graph of  $x= -3$  on the same set of axes.
- (d) Write the coordinates of the point where line  $x= -3$  cuts the graph  $y= 2x+2$

03. Copy and complete the following table for the straight line ...  $y= -0.5x + 3$

X	-4	0	4
Y			

04. Equations of four straight lines are as follows.

$$y= 4x+3$$

$$\frac{y}{4}- x = 7$$

$$y + 3x = 7$$

$$y = 2x - 3$$

- a) Write down the equations of the line that passes through (0,3)
- b) Write down the equations of two lines that are parallel to each other.

05. Solve the following equations

a)  $X+3 = 21$

b)  $Y-1 = 8$

c)  $7y = 2$

d)  $9 = 5y-6$

e)  $6x+2 = 3x-7$

f)  $32-6x = 8+2x$

06. Here are 05 numbers. 49,  $\pi$ , 27, 21, 31. write down

- a prime number .....
- an irrational number .....
- a square number .....
- a triangular number .....
- a cube number .....

07. Write 600 as a product of powers of its prime factors. Show your working clearly.

08. Find LCM of            1.) 10,30,210                            2.) 7,13,182

09. Find HCF of            1.) 120,40,60                            2.) 10,18,20,36

10. Find

- a)  $7-8+5$                             =                            e)  $-2(-2)+(-4)$                             =
- b)  $(+3)+(+4)-(+1)$                             =                            f)  $5-(6-10)$                             =
- c)  $9+(-5)-(-9)$                             =                            g)  $-3-(7-10)$                             =
- d)  $(-1)+(-2)+(-3)$                             =                            h)  $-12.4 \div 2$                             =

11. Find

- a.  $\frac{11}{12} + \frac{2}{3}$                             b.  $\frac{5}{8} \div \frac{2}{16}$                             c.  $\frac{6}{7} - \frac{2}{3}$                             d.  $\frac{5}{4} \times \frac{7}{20}$
- e.  $2\frac{2}{5} - \frac{6}{7} \div \frac{5}{14}$                             f.  $\frac{1}{6} \times (\frac{3}{2} - \frac{1}{2}) \div \frac{7}{12}$

12. Change the following recurring decimals into fractions

- (i) 0.4                            (ii) 0.275                            (iii) 3.112

13. Arrange in ascending order.

- a.) 0.123, 1.23, 0.0123, 12.3                            b.)  $\frac{1}{4}$ , 0.75,  $\frac{1}{8}$ , 0.5

14. Find

- a.)  $7+2 \times (4-3)$                             b.)  $(16 \div 2+4) \div (3 \times 4 \div 2)$                             c.)  $(10 \times 3-20) + 3(9 \div 3+2)$