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புனித பேதுரு கல்லூரி, கொழும்பு 4
St. Peter's College - Colombo 04

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09 ශ්‍රේණිය – විශේෂ ඇගයීම (පළමු වාරය) - 2022
தரம் 09 - விசேட மீளாய்வு (முதலாம் தவணை) - 2022
Grade 09 – Special Evaluation (First Term) - 2022

ගණිතය
Mathematics

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Two hours

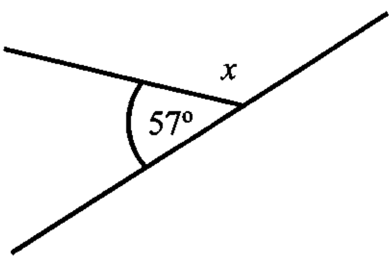
Part – I

Answer all questions.

01. Simplify. 0.0002×1.6

02. Solve $6 + 5 \times \frac{3}{5}$

03. Find the value of x.



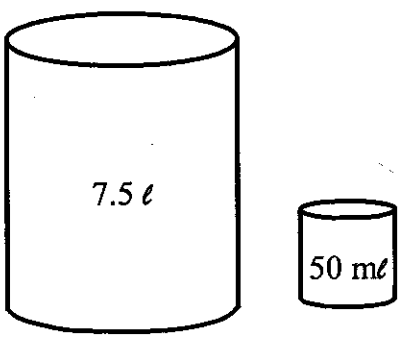
04. Expand.

$3x\ (2y - 5)$

05. A student receives 30 marks out of a 40 mark question paper. Find the fraction of marks received by the student out of the total marks.

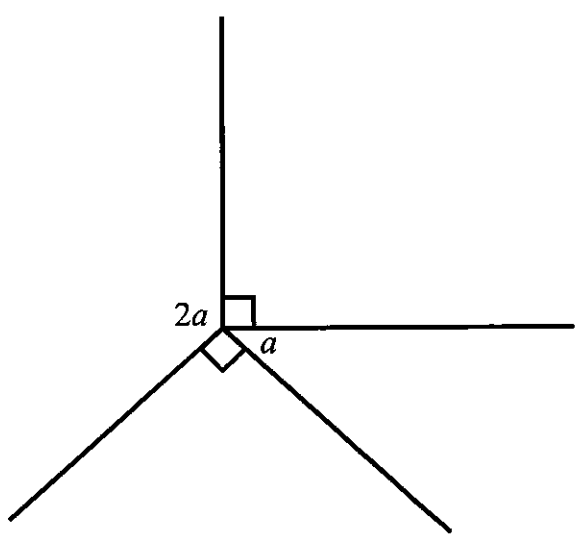
06. Solve $5(x + 1) - 3x - 8$

07.



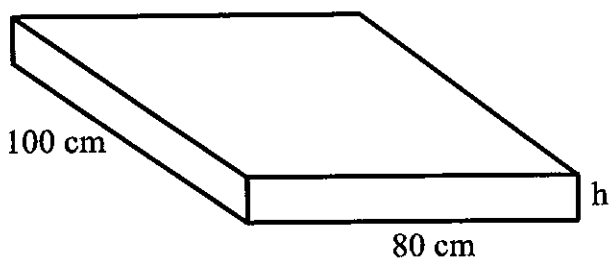
How many times should the container with a capacity of 50 mℓ be used to fill up a 7.5 ℓ capacity container?

08. Find the value of angle a.



09. Find the square root of $\sqrt{225}$ using prime factors.

10. If the capacity of the following container is 4ℓ , what is it's height?



11. Expand and find the value of $(-2)^5$

12. What is the mode of the set of numbers, 8, 2, 7, 2, 3, 6, 7, 2, 4

13. Round off 17 to tens place.

14. Express 25_{ten} as a binary number.

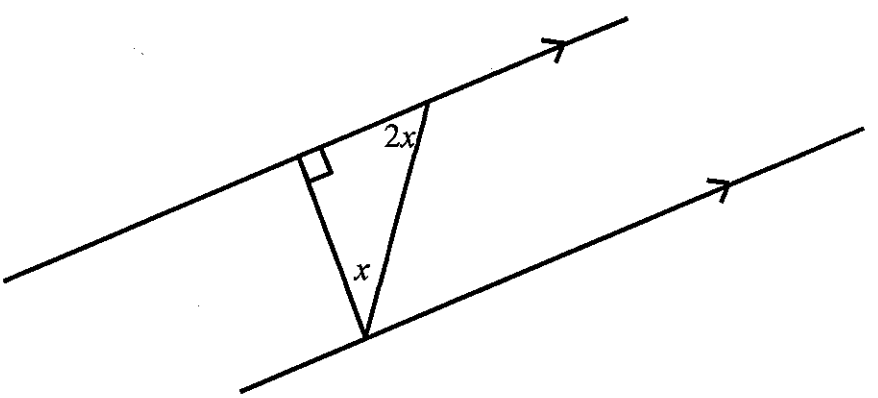
15. Samantha gives $\frac{2}{3}$ of 15,000 he has, to his brother. What is the amount of money Samantha has in his hands now?

16. -9, -7, -5, -3 , ____ , ____ write the next two terms of the number pattern.

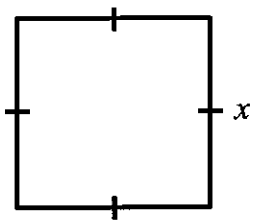
17. Simplify. $\dfrac{0.5 \times 0.002}{0.0002}$

18. Express $8.7\ m^3$ in cubic centimeters (cm^3).

19. Find the value of x



20. Find the factors of $5 - 5xy$

c. i. 

Express the perimeter of the square as an algebraic expression. *(01)*

ii. A rectangle's length is 2 units more than the side length of the above square and the width is 1 unit less than the side length of the above square. Express the length and width of the rectangle as algebraic expressions. *(01)*

iii. What is the area of the rectangle? *(02)*

iv. If $x = 3$, find the value of the rectangle's area. *(02)*

04. a.

i. Express 35_{ten} as a binary number. *(02)*

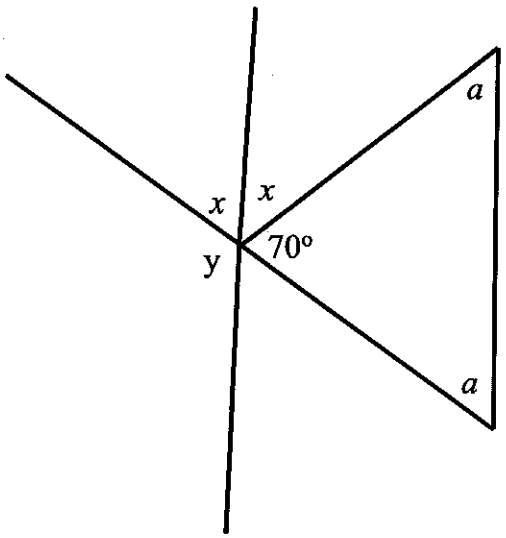
ii. Express $1\,0\,1\,0\,1\,1_{two}$ as a decimal number. (to the base ten) *(02)*

iii. Solve.

$$\begin{array}{rr} & 1\,0\,1\,0\,1_{two} \\ & 1\,1\,1\,1_{two} \\ + & 1\,0\,1_{two} \\ \hline \end{array}$$

(02)

iv. Find the value $1\,0\,0\,0\,1_{two} - 1\,1\,1\,1_{two}$ *(02)*

v. 

Find the value of a, x and y. *(03)*

05. a. The length, width and height of a diesel tank is 1.6 m , 1 m and 80 cm respectively.

i. What is the volume of the tank in cm^3 *(02)*

ii. What is the capacity of the tank in liters? *(02)*

iii. If a motor vehicle requires 40ℓ of diesel per day, for how many days of consumption is there fuel for the use of 8 such motor vehicles? *(03)*

b. The volume of milk collected in a day is 0.5 m^3 in a dairy farm.

i. What is the per day volume in liters? *(02)*

ii. How many bottles with a capacity of 250 mℓ each can be filled daily? *(02)*

06. a. A businessman buys a mobile phone for Rs. 90,000/- and marks the price to sell it, keeping a profit of Rs. 45,000/-

i. What is the mobile phone's marked price? *(01)*

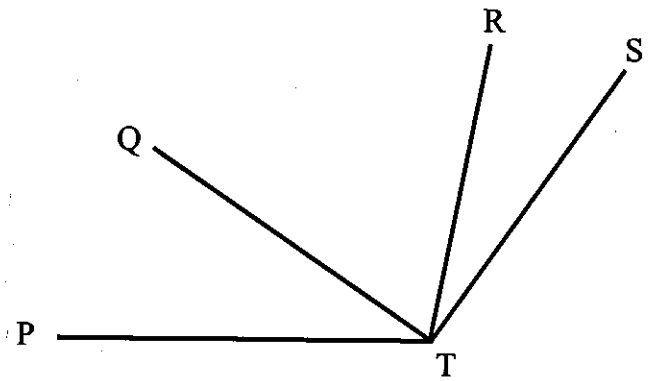
ii. However if a 10% discount is offered from the marked price, how much would the mobile phone be sold for? *(03)*

iii. Upon selling by offering the 10% discount what is the profit gained by the businessman? *(02)*

iv. What is the profit percentage earned by the businessman? *(03)*

b. If a sofa with a value of Rs. 160,000/- is sold 5% less than the value, what is it's selling price? *(02)*

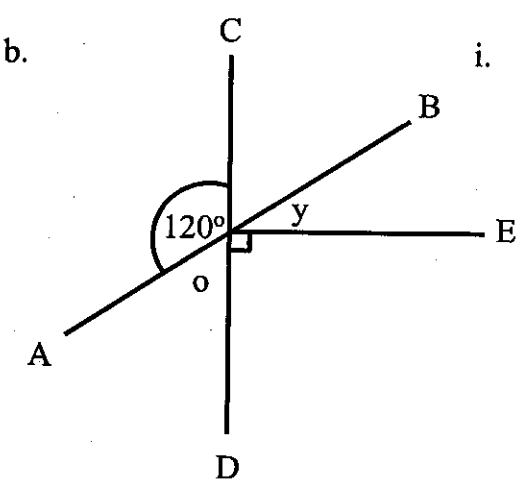
07. a. In the diagram, $P\hat{T}R = Q\hat{T}S$



i. Show that $P\hat{Q}T = R\hat{T}S$ *(03)*

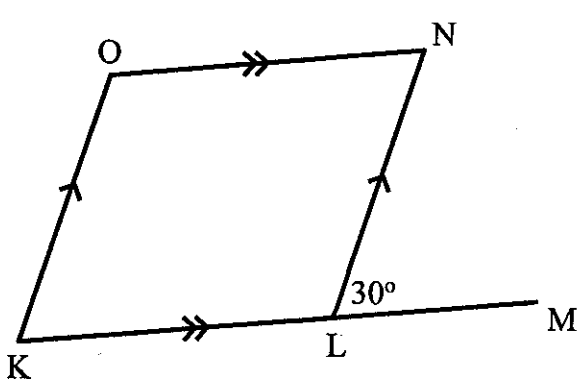
ii. If $P\hat{T}S = 145°$ and $P\hat{T}Q = 55°$ find the magnitude of $Q\hat{T}R$. *(02)*

b.



i. By giving reasons find the magnitude of y?
(AB, CD, OE are straight line segments.) *(02)*

c.



i. Show that the magnitude of $K\hat{L}N$ is 5 times the magnitude of $N\hat{L}M$. *(02)*

ii. Write an angle with equal magnitude to $K\hat{L}N$ and state the magnitude. *(02)*